Three Lectures
UPON THE
TESTES.

Delivered before the Royal College of Surgeons of England on March 25th, 27th, and 29th, 1895,

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LECTURE I.

Delivered on March 25th.

MR. VICE-PRESIDENT AND GENTLEMEN,—Before commencing these lectures allow me to offer my sincere thanks to the President and Council of the College for electing me to the honourable position of Hunterian Professor of Surgery and Pathology, and to express the hope that I shall be able to justify the confidence they have thus placed in me and to do credit to the office I have the honour to hold. I propose to embody in these lectures the results of my own observations and experiments upon the testis and to give a general review of them rather than to recount all the details which have taken me some years to gather and to put together. By means of such a general review I hope to convey a concise summary of the views I have put forth to some extent in a series of papers already published in the *Journal of Anatomy and Physiology*. For a discussion upon the views of other writers and for a fuller and more detailed account of my own observations I shall often have to refer to one or other of these papers. I shall endeavour to make the subject as interesting as I possibly can, and I hope you will listen to me with indulgence and overlook any shortcomings on my part.

I will, in the first place, give an account of the structure of the testis in early life, in adult life, and in old age, and then proceed to consider the influences this organ exercises upon the growth and development of the sexual glands that are accessory to it, as well as the influence it exerts upon the character of the body and the mind. Secondly, I propose to give an account of the state of the testis, and of the function exercised by it when it is retained at some point in the course of its descent, or transition, from the abdominal cavity to the scrotum. Lastly, I will state the effects upon the testis of obliteration of the vas deferens, whether that be induced by disease or by experiment.

STRUCTURE OF THE TESTIS.

The testis, as is well known, is an organ which attains neither its full size nor its full function until the onset of puberty—a time that varies in different persons and in different climes. With the attainment of the full size and the full function of the testis the features which we regard as characteristic of the male sex are developed.

1. *In the boy.*—The body of the testis of a boy, say at ten years of age, measures about 15 mm. in length by 10 mm. in breadth, and also 10 mm. from before backwards; a transverse section, therefore, is nearly circular. It is firm and of compact structure. The seminal tubules are almost indistinguishable from one another and from the somewhat dense intervening connective tissue. In minute structure the body of the testis consists of numerous tubules closely packed and firmly bound together. These tubules are but little convoluted, and each of them is surrounded by a well-marked tunica propria composed of two or three layers of flattened connective-tissue cells with flattened and elongated nuclei. The intertubular connective tissue, which is of a fibro-cellular nature, is relatively large in amount, and in this the bloodvessels, lymphatics, and nerves run. Each tubule is composed of a solid column or rod of cells, the cells at the periphery of the tubule being of a cubical shape, and those filling the centre polygonal or irregular in outline. There is at this stage in the development of the seminal tubules no lumen, and all the cells seem to be in a quiescent state. In the corpus Highmori, which is small, the rete testis is simple, and the few channels seen in it are lined by a single layer of low cubical cells resting directly upon dense fibrous tissue. The epididymis is relatively large to the body of the testis, this being always so in early life, and it is also large in cases of atrophy or want of development of the organ. (See Fig. 1.) In its upper end the tubules

FIG. 1.

Right testis of a boy aged five years. Natural size.

are small and empty, and are lined by a single layer of subcolumnar, non-ciliated cells having between their narrow and attached ends other small, irregular, or pear-shaped cells. The walls of these tubules are chiefly composed of several layers of those flattened or spindle-shaped cells which we are in the habit of recognising as incompletely developed unstriped muscular fibres. The tubules are bound together by cellular connective tissues. (See Fig. 2.) Thus in the child the

FIG. 2.

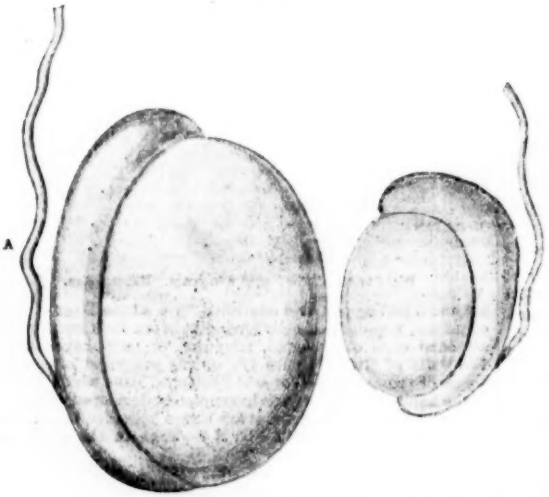
Section of epididymis of a boy aged ten years. × 50.

globus major of the epididymis differs from the testis in that the lumen of its tubules is not occupied by cells, and that the cells lining them are of the subcolumnar, non-ciliated variety. They differ from those of the adult, as will be seen further on, by the smallness of the cells and the absence of cilia upon them. The lower part of the epididymis is composed of the coiled commencement of the vas deferens, connected together by loose areolar tissue.

2. *In the adult.*—In the adult the body of the testis is large, soft, and plump, measuring on an average 1½ in. in length, 1¼ in. in breadth from before backwards, and 1 in. from side to side. It weighs between six and eight drachms. On section through the tunica albuginea the tubules, resembling twisted threads, immediately bulge outwards under pressure of the investing tunica. They are easily separated from one another owing to the intervening intertubular connective tissue being small in amount and very delicate in its structure. There is usually a certain degree of asymmetry between the two organs—the left and right—as, indeed, is the case in other bilateral organs of the body. This asymmetry between the two testicles, though usually very slight—the left being often the larger and more dependent—may be seen in a striking degree in a specimen in the Cambridge Pathological Museum, which shows the testes taken post mortem from a man aged forty-four years. The left, which was the smaller, measured only 30 mm. in length by 20 mm. in breadth; whereas the right measured 50 mm. in length by 35 mm. in breadth. (Fig. 3.) The epididymis was relatively larger to the body of the testis in the left or smaller than in the right. Each organ was

natural in form and in structure, and in each the formation of the spermatozoa was going on at the time of death, as shown by the presence of special sperm cells in the interior of the seminal tubules. Thus, though both were natural in

FIG. 3.

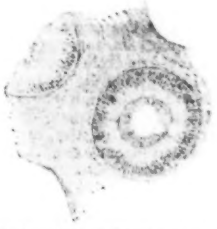


Asymmetrical testes in a man aged forty-four years.
A, Right. B, Left.

structure, the left was stunted in its growth and the right overgrown.

The seminal tubules, which in the adult are large and much convoluted, are composed of a thin tunica propria lined by the seminal cells. The tunica propria usually consists of a single layer of flattened connective-tissue cells, and is, therefore, less obvious than the corresponding structure in the seminal tubules of the boy's testis. Immediately within this is a continuous layer of small cubical cells, which are the parents of all the others. The next layer consists of two or three strata of large polygonal-shaped cells with large nuclei, which are usually found in one or other of the stages in the process of division. More centrally still—that is, nearest to the lumen—are two kinds of cells not usually arranged in definite strata: the one in which young spermatozoa radially disposed are found, and the other in which the nuclei are broken up into fragments, probably preliminary to their escape into the lumen after the dissolution of the protoplasm of their containing cells. These nuclear subdivisions do not, so far as I have observed, undergo any further change so as to develop into spermatozoa. Thus, the central cells in an adult active

FIG. 4.



Section of the tubules of the epididymis of an adult. × 350.

seminal tubule are of two kinds—viz., the one which gives rise to the young spermatozoa, and the other which after subdivision of its nucleus undergoes dissolution and probably contributes the greater part of the fluid portion of the seminal secretion before the latter leaves the seminal tubules. The central lumen of the tubule is occupied by fully formed spermatozoa, some fluid secretion, and some degenerated cells with some débris of cells. Thus, at the periphery of each seminal tubule there are, as it were, parent cells; within these there are daughter cells, some of the innermost of which give rise to spermatozoa-forming cells, and others, perhaps all the remainder, break up to form the fluid portion of the secretion.[1] In the epididymis (Fig. 4), which is relatively smaller than in the boy, the tubules of the globus major are fully developed, and have a large lumen filled with the seminal secretion, which contains, during life, active spermatozoa. Each tubule consists of a thick wall of unstriped muscular fibres and is lined by a single layer of tall columnar cells with fine long cilia at their free margins. In the adult, so far as can be judged from their structure, the seminal tubules are more or less constantly producing the seminal secretion, which is made up of spermatozoa derived from some of the daughter cells already mentioned, and of a special secretion formed in all probability from the dissolution of those daughter cells that do not give rise to the formation of the special and most power-giving cells in the animal kingdom—the spermatozoa. Thus, in the testes of the adult the seminal tubules differ from those in the child in the presence of these sperm and secretion producing cells, as well as in the presence of a central lumen; and the tubules of the epididymis (upper end) differ in being lined by tall columnar cells bearing long cilia and in each enclosing a lumen of considerable size filled with seminal secretion.

An interesting subject—namely, the mechanism by means of which the seminal secretion is conveyed from the seminal tubules to the epididymis—may well be referred to here. The seminal tubules have, as is well known, no sheaths of muscular tissue to exercise a compressing influence upon them and so expel their contents, as is the case with the tubules of most other glands—those of the prostate, for example. Moreover, the testicle itself has only a very imperfect covering of striped muscle in the form of the cremaster, which is a suspender rather than a compressor of the body of the testis. Accordingly, in the absence of any such muscular mechanism, either around the individual seminal tubules or around the whole gland, we are left to assume that the secretion is forced out of the seminal tubules by the *vis a tergo* pressure under which it is produced, and that as new secretion is formed the older material is forced along the tubules into the channels of the rete, thence into the vasa efferentia, and ultimately into the tubules of the upper end of the epididymis. These last have muscular walls which by their contraction must drive the seminal secretion onwards; and, besides, these tubules are lined by ciliated cells which are presumably for the purpose of driving the secretion onwards.

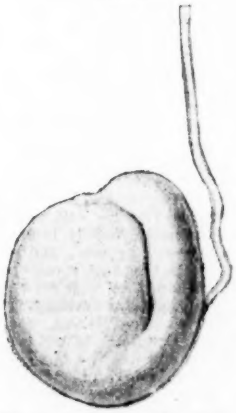
3. *In the aged.*—The time at which the testes cease to produce their special secretion—the spermatozoa—and the person loses his reproductive powers varies within a wide range. In some men between the ages of seventy and eighty years the seminal tubules may be found active—that is, showing spermatozoa and the different stages requisite for their production; and it is known that men about or over eighty years of age may beget children. Some men suffer from spermatoceles at an advanced age, in whom the production of spermatozoa must be still going on, for in the fluid removed from such spermatoceles during life there are usually numerous active and vigorous sperm cells lashing their tails and moving swiftly from place to place. On the other hand, the testes may, independently of disease, cease to produce spermatozoa at as early an age as fifty, and may undergo at that time the structural changes which I have elsewhere more fully described as characteristic of the natural involution of this organ.[2] I may here simply state that in the testicles of the aged two distinct stages may be recognised in the process of involution or decay to which they are liable. In the *first* the epithelium of the seminal tubules, and also that of the tubules of the globus major of the epididymis, undergo more or less complete fatty degeneration and partly disappear, and the tunica propria of the tubules of the testicle

[1] This has been to some extent worked out by Frazer. See Quain's Anatomy, vol. ii., ninth edition, p. 689.

[2] Journal of Anatomy and Physiology, vol. xxvii., p. 474.

becomes somewhat thickened, but the intervening intertubular connective tissue remains practically unaltered. In the epididymis the muscular wall of the tubule is replaced by fibrous connective tissue, and the intertubular connective tissue is increased, dense and fibrous. In the other, or *second*, stage the seminal tubules are much reduced in size, the epithelium having in great part disappeared, leaving only in many instances a single layer of long, tapering, columnar cells, lining and filling the tubule, the central spermatozoa-producing cells having completely disappeared, while the tunica propria is greatly thickened from proliferation of its own connective-tissue cells and the formation of a fibrous matrix. The intertubular connective tissue is in this second stage relatively increased owing perhaps to the diminution in the size of the seminal tubules; but it still remains of loose texture, and contains, as in the normal state, many connective-tissue cells. The epididymis shows no other changes than those incidental to the *first* stage. Besides the above there is a third change, which is more

FIG. 5.



Left testis of a man aged seventy-six years. Natural size.

partial, and much resembles the result of the inflammatory process. It is usually observed in the small or shrunken testicles of old men and affects both organs. In the altered patches the seminal tubules, in the majority of instances, are completely transformed into fibrous rods or cords; but in some there still remain in the central fissure that represents the original lumen traces of epithelial cells derived from the degenerated cells of the tubes. The intertubular connective tissue is increased in amount and converted into a dense fibrous variety. It will be observed that in the senile testicle the tubules do not seem to become dilated or to form cysts, as is commonly the case in the prostate and some other glands. Thus the testicle passes through certain phases in its life-history. It acquires its full size and full function at the time of puberty, maintains this for a long period of years—it may be up to from seventy to eighty years of age,—and then declines or undergoes natural involution or decay, the period at which decay sets in varying in different persons.

Briefly, we may summarise the different phases in the life-history of the testis thus. 1. In the boy the seminal tubules are composed of solid rods of epithelial cells, supported by a relatively large amount of cellular connective tissue sufficient to give firmness to the structure of the gland. 2. In the adult the seminal tubules are much larger, are actively producing spermatozoa, and have relatively very little loose areolar tissue supporting them, the tubules being in consequence easily disentangled from one another. 3. In the aged, when involution has taken place, the seminal tubules are much reduced in size, the inner epithelial cells having, from fatty degeneration and subsequent disintegration, entirely disappeared, leaving only the peripheral layer of cells, which are often liable to elongate and to become fibrillated in their long axis. The intertubular connective tissue is relatively increased, and the tunica propria of the tubules is usually thickened. Similar changes take place in the tubules of the upper end, globus major, of the epididymis. These changes agree, in so far as the thickening of the walls of the tubules and of the intertubular connective tissue is concerned, with the changes which the mammary and other glands pass through when their function ceases, but, as I have just stated, the tubules do not become dilated or cystic.

THE EFFECT OF CELIBACY UPON THE TESTIS.

The effect of long celibacy upon the spermatozoa-producing power of the testis is one of considerable interest, and one upon which the medical man is not infrequently consulted. Under these circumstances the organs are usually smaller and softer than they are in a married man of the same age; and it would appear that the sexual desire is under such circumstances commonly in abeyance. So far as I am aware, it has never been determined microscopically to what extent, if any, the structure of the seminal tubules suffers from long celibacy. The bodies of the testes commonly become reduced in size, soft, and flabby, yet we know that under the natural stimulus they in a comparatively short period of time regain their full size and full function, with the production of spermatozoa. It may, therefore, be assumed that atrophy does not occur, but merely that the organ becomes slightly reduced in size, the capability of the seminal cells of the tubules of the testis to multiply and to produce spermatozoa merely remaining in abeyance until the sexual feelings are aroused and the sexual glands thereby stimulated.

THE INFLUENCE THE TESTICLES EXERT UPON THE GROWTH AND DEVELOPMENT OF THE ACCESSORY SEXUAL GLANDS.

The influence the testes exercise upon the accessory sexual glands (the prostate, vesiculæ seminales, and Cowper's glands) may be inferred from those cases in which the testes (both) were removed in early life. There are many of the domesticated animals in which this operation is performed with commercial advantage, and in some countries the same is done in man in order to produce the eunuch; indeed, among a certain sect of people in South-east Russia removal of the testes late or early in life is a practice religiously observed and enforced. The prostate gland is essentially glandular in structure, and the muscular tissue which is abundant in it is apparently for the purpose of expelling the secretion from the tubules into the ducts and so into the prostatic dilatation of the urethra. In the full-grown eunuch the prostate gland is small, atrophied, and fibrous. The glandular tubules, having never fully developed, are represented only by branching fissures, which are obviously the representatives of the ducts, and are lined by a single layer of flattened cells. The intervening or intertubular connective tissue is relatively increased in amount, and consists almost entirely of fibrous connective tissue, with hardly any of those unstriped muscular fibres which are so abundant and form so large a proportion of the intertubular connective tissue in the normal, fully developed gland.[3] The vesiculæ seminales are small and their saccules are devoid of secretion. Cowper's glands are small, fibrous, and in much the same state as the prostate gland. The penis is small, and the sheet of striped muscle around the intrapelvic part of the genital portion[4] of the urethra (including the external sphincter of Henle and the constrictor urethræ) is small, pale, and fibrous, instead of being thick, well-formed, reddish-striped muscle. The special muscles of the penis, and with them the accelerator urinæ, are also small and ill developed. The same influence is exerted by the absence of testes in other animals—e.g., in the dog, in the cat, in the horse, in the bullock, and in the boar. In the last animal the prostatic and Cowperian glands, together with the striped muscle of the urethra, are so pronounced in the entire male and so diminutive in the castrated pig that the contrast between them is very striking. In the entire animal, indeed, these glands are so prominent, and in the natural state so enormously developed, that they deserve special notice. The prostate is bilobed and lies on the sides and behind the urethra. Each lobe is composed of numerous

[3] With regard to the enlarged prostate in old men, removal of the testes, whether they be at the time of their removal actively engaged in the production of spermatozoa or in one of the stages of involution already referred to, produces a similar effect—namely, atrophic changes in the gland tubules and in the intertubular connective tissue, which soon take place. The gland steadily diminishes until it becomes reduced to a small size. For the early changes in the enlarged prostate after castration see a case reported by me in the *British Medical Journal*, March 9th, 1895.

[4] By the genital portion of the urethra I mean that portion which extends from the opening of the vasa deferentia forwards to the end of the penis. The reasons for this nomenclature are given in a paper entitled "Observations on the Urinary Bladder and Urethra" (Journal of Anatomy and Physiology, vol. xxv., p. 535, 1891).

small glandular lobules held together by loose areolar connective tissue, which in the form of a thin sheet surrounds and thus binds together the different lobules making up each lobe, and the gland is soft and granular. Its ducts pass into the hinder, or dorsal, wall of the urethra. It is composed mainly of vesicles, some of which are quite small and hardly visible to the naked eye, others being large and one-sixth of an inch in diameter; and they are filled with a thin, slightly turbid mucous secretion. Each vesicle is lined by a single layer of cubical or subcolumnar epithelial cells. The vesicles are embedded in a thin layer of tissue, mainly composed of unstriped muscular fibres, and traversed by blood-vessels, lymphatics, and nerves. Cowper's glands also are very large, each measuring four and a half inches in length, and at the lower and larger end one and a quarter inches in thickness. They are firm, elongated, three-sided pyramids, lying one on either side of the urethra, and having over the hinder part of their outer surface, and all over the dorsal, or posterior, surface, a sheet of reddish-striped muscle with the fibres running from behind outwards and forwards on to the dorsum. In the middle of each is a large dilated branching duct into which smaller ones open. The smaller ducts commence in the glandular substance proper, which is subdivided by thin fibrous partitions into small compartments. The main duct narrows as it passes out at the posterior extremity of the gland, rendering it probable that the main duct, and also the smaller ducts, act as reservoirs for collecting and retaining the secretion of the gland, which is thick and viscid. The ultimate gland lobules are composed of numerous small vesicles lined by a single layer of columnar cells lying on a basement membrane which consists of a single layer of flattened connective-tissue cells. The columnar cells have small nuclei near their attached ends, and their protoplasm is clear and almost transparent. The vesicles are separated from one another by the minimum amount of connective tissue without unstriped muscle fibres in it. Cowper's gland thus differs from the prostate in having no unstriped muscle in its substance and in having a thick sheet of striped muscle partially covering the gland on its outer surface, which serves the purpose of expressing its secretion. The sheet of striped muscle around the intrapelvic part of the genital portion of the urethra is thick, of red colour, and well formed. The muscular fibres are of full size, and they present the usual structure of normal striped muscular fibres.

In a full-grown pig, which when a few days old was deprived of the testes, the condition of the parts presents a striking contrast. The prostate is represented by two small, flat, bean-like masses, which are firm and composed of small compact lobules held together by means of loose areolar tissue. Each lobe is one inch long, and one-third to one-fourth of an inch broad. Each lobule is composed of a number of tubules with thick walls, consisting in the main of fibrous connective tissue with a few unstriped muscular fibres, and lined by a single layer of subcolumnar cells. In many of the tubules there is a small lumen, but in others the interior is filled with cells. The tubules in a lobule are connected together by somewhat dense fibrous connective tissue, though the lobules themselves are connected only by a small amount of loose areolar connective tissue. Cowper's glands are small elongated pyramids. They measure two inches in length and one-fourth of an inch in thickness at the lower and larger end. The striped muscle on their outer surface is correspondingly small. They are mainly composed of ducts which are filled with a mucous secretion. The peripheral part of the gland is composed of numerous closely packed vesicles which have hardly any lumen and are lined by a single layer of subcolumnar cells with clear protoplasm. The sheath of striped muscle around the intrapelvic portion of the urethra is thin and fibrous, and the muscular substance is pale. The individual muscular fibres are of small size and about half the size of those in the same muscle in the boar. The contrast between the accessory sexual glands in the boar and the same glands in a pig castrated when young clearly shows that the testes exert an all-important influence upon the growth and development of the accessory sexual glands, and that the full development of the striped muscle around the urethra is dependent upon the existence and full development of the testes.

THE INFLUENCE THE TESTES EXERT UPON THE GROWTH AND DEVELOPMENT OF THE BODY AND THE MIND.

Not only do the testes—the dominating sexual glands—exert a marked influence, as has been shown above, upon the growth and development of the accessory sexual glands, and upon the growth of the penis and the striped muscle around the urethra, but they also exert an important influence, as is well known, upon the growth and development of the body, and doubtless upon the mind. If a boy when young be deprived of his testes—castrated—the developmental changes that go on to form the characteristic features of man do not take place, and, as he is sexless, characters that are more or less intermediate between those of man and those of woman develop; indeed, such a person, commonly known as a eunuch, acquires characters that are more akin to those of the female than those of the male. The female likewise, we know, when deprived of ovaries acquires some of the characteristics of the male. John Hunter noticed the development in the hen pheasant of fine and brilliant plumes after disease involving and destroying both ovaries. The eunuch is usually large, fat, and flabby, with scanty hair on the face. His pelvis is broader and his shoulders are narrower than those of the entire man; his features simulate those of the female, but are not so well cut or so delicately shaped, being, like the rest of the frame, coarser. His voice remains like that of a boy—that is, in the high register—though the larynx enlarges somewhat, and the vocal cords increase in length. Eunuchs are in great requisition in the choirs of some churches for their voices, which combine the sweetness of the soprano and the richness of the tenor notes. Precisely the same changes take place during puberty in persons in whom the testes are diminutive and their special structure is wanting. Such persons I have termed "eunuchoid,"[5] because they resemble eunuchs in all particulars save and except that the testes have not been removed, but remain in a diminutive or abortive condition. The effect of the removal of the testes in early life upon the development of the mind at puberty is a subject which is scarcely ripe for solution. What is written about eunuchs is unreliable, chiefly because they as a class have always been despised by men, and whatever has been said of them has been too highly coloured by prejudice. Many of them have attained to high rank and position and have shown great capacity for transacting business of all kinds. One of their number, Narses, was among the first generals of the Roman Empire. He not only possessed great power over his soldiers and was the foremost in the practice of war tactics, but was also highly esteemed and respectfully feared by them. Another celebrated eunuch was Eusebius, who possessed, in addition to other powers, that mental quality which eunuchs have always been noted as developing and exercising in the courts of eastern countries—namely, that necessary for the purposes of intrigue. Other eunuchs who have taken a prominent position in the world's affairs might be mentioned. Further information upon this subject is still wanting, for though we know in what respects a eunuch resembles the woman and differs from the man physically, yet we do not know to what extent the mental characters correspond and resemble those of women and differ from those of man. Additional and critical observations, indeed, are still needed for the elucidation of this not uninteresting problem. I need scarcely allude to the difference between the gelding and the entire horse, and between the bullock and the bull, to indicate the effect of removal of the testes upon the body. In some animals, as the cat, these differences are not so marked.

THE EFFECT OF REMOVAL OF THE TESTES IN MEN AND IN FULLY GROWN ANIMALS.

Removal of the testes in an adult and in fully grown animals produces in a comparatively short time (within three months) atrophic changes in the accessory sexual glands—the prostate, vesiculæ seminales, and Cowper's glands. These parts after a time acquire a structure that is similar in all respects to the structure of the same parts in a eunuch or in a eunuchoid person. In the latter the condition arises from arrested growth and development, whereas in the adult deprived of the testes it arises from atrophy and disappearance of existing structures. The result is the same in each, but the process differs. In adults deprived of their testes the body will have acquired the male characteristics, and in consequence the permanent skeletal parts will be but slightly, if at all, modified. Such persons, however, usually put on fat and get, in fact, into better condition. They often, also, become placid and content, though in some cases, as in the young man whose testes were removed by Sir Astley Cooper, extreme misery may ensue.

[5] Journal of Anatomy and Physiology, vol. xxviii., p. 221.

LECTURE II.

Delivered on March 27th.

RETAINED TESTES.

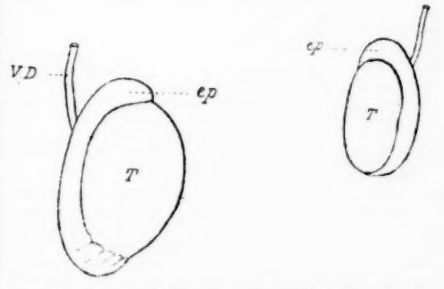
MR. VICE-PRESIDENT AND GENTLEMEN,—In the first lecture an account was given of the changes that the structure of the testis undergoes from early life to old age, and of the influence, in addition to producing spermatozoa, that this organ exercises upon the development and growth of the accessory sexual glands, and also upon the formation of the male sexual characteristics. To-day, after reviewing the position the testes occupy in different animals and in man, I propose to give an account of the structure of the testes when they fail to reach the end of their destined course, and to point out the function, if any, which the testes under such circumstances are capable of performing.

In the study of the comparative anatomy of the male generative organs in the mammalian group of vertebrates there is nothing, perhaps, more striking than the varied permanent positions that the testes occupy in the several classes or groups of animals. In the Monotremes, in the Elephant, and in the Cetacea the testes remain in the abdominal cavity just below the kidneys; in a few artiodactylæ they are found in the groin; and in the remainder, which comprises the majority, they occupy the dependent scrotum, be it inguinal or perineal.[6] Further, in the rutting animals, such as the hedgehog, the testes are found in the groin during the rutting season and are withdrawn into the abdominal cavity at the end of that period, where they remain until the return of the next period of rut. Thus, in these rutting animals the testes pass outwards into a sac of peritoneum—the tunica vaginalis—in the groin at the onset of the rutting season, and backwards into the abdominal cavity at its termination; and, as will be pointed out later, these organs only attain their full size and full function when they reach the furthest point in the course of their descent, dwindling and losing their spermatozoa-producing powers when withdrawn into the abdominal cavity. The testes, then, occupy—(1) in some animals a permanent position in the abdominal cavity below the kidneys; (2) in others they occupy at all times the scrotum, be it inguinal or perineal—the serous cavity may or may not then be shut off from the general peritoneal cavity; and (3) in others (rutting animals) they are in the scrotum during the period of sexual activity (rut) and in the abdomen during the period of sexual inactivity (non-rutting period). John Hunter, in his well-known monograph on the Position of the Testes in the Fœtus, gives an account of the place of origin of the testis and describes the mechanism by which, in part at any rate, it is made to travel from its protected and concealed to a more unprotected and exposed position. He notes that the mechanism not infrequently fails, both in man and in the domesticated animals, to convey the organ to the termination of its destined course—the scrotum. The testes on one or both sides may fail to pass out of the abdominal cavity or to go beyond the external abdominal ring. The commonest situation in which an undescended testis is found is the external abdominal ring; it may pass into the perineum, thus missing the scrotum. More rarely it finds its way into the upper and front part of the thigh.[7] It may also be found in the cavity of the pelvis. Failure in descent of the testis is more common on the right side than on the left, as was shown by Braman. When one testis only remains undescended—whether the organ be in the abdominal cavity, at the internal abdominal ring, or in the groin, the other being in its natural position and well developed—the case is of interest chiefly owing to the concurrence of congenital hernia in connexion with the undescended testis and the difficulty of successfully applying an apparatus for the proper closure of the canal and the prevention of the escape of intestine. If, however, the surgeon finds it impossible to adapt a well-fitting and comfortable truss, then the question of operative measures may arise, and naturally the exact structure of the testis, its capabilities of producing spermatozoa, and the influence it may exercise upon the man become of importance. Especially is this the case in those instances, which are not very rare, of incomplete descent of the testes on both sides. When the testes are duly transmitted they acquire, as is well known, their full size and full function; but when they fail to reach their destination they do not attain either their full size or their full function—the production of spermatozoa. This may appear strange, seeing that the testes do in some animals attain their full size and full function when retained in the abdomen or in the groin. It is, however, the fact that, in any given animal in which complete "descent" of the testis normally takes place, the testis, in order to attain its full size and full function, must reach and occupy the terminal part of that destined course. In man, for example, unless the process of descent be fully accomplished the testes attain neither their full size nor their full functional powers. I am aware that this has been doubted, but my own observations quite confirm the view. Further, I have shown in a paper entitled "The Structural Changes in the Testicle of the Dog when it is Replaced within the Abdominal Cavity"[8] that when the testis in the dog is by experiment replaced within the abdominal cavity it soon dwindles and loses its spermatozoa-producing powers, undergoing at the same time certain definite retrogressive changes in the structure of its seminal tubules.

The following is the only example of a retained testis in a boy that I have had the opportunity of examining. He was aged twelve years, and the right testis was just outside the external abdominal ring. There was apparently no gubernaculum extending to the scrotum, which was on that side small. The body of this, the right testis, measures 14 mm. in length by 8 mm. in breadth, whereas that of the left testis, which was in the scrotum, measures 15 mm. in length by 10 mm. in breadth. The right epididymis is small and apparently deficient in its lower part. The right vas deferens is short and slender, but otherwise natural. In this, as in similar cases, the tunica vaginalis is large, and the processus vaginalis is patent, opening freely above into the peritoneal cavity and below into the capacious tunica vaginalis. The seminal tubules are small and filled with small epithelial cells, as they are before puberty.

When the testicle of a puppy is replaced in the abdominal cavity it undergoes but little change, becoming only slightly less plump than its fellow. It continues to grow with the body until the onset of puberty, but its growth is not so great as that of the undisturbed organ in the scrotum. (See Fig. 6.) At puberty it does not pass through the structural changes preliminary to the formation of the mature spermatozoa-producing tubules, as does its fellow, the descended organ; nor does it remain stationary, retaining its pre-puberty structure, but it undergoes a change that is peculiar to a retained or replaced testis, the seminal tubules becoming altered. They are of small size and have only a small central lumen, and are lined by a single layer of delicate columnar cells, which are derived from a modification of the single layer of the peripheral cubical cells

FIG. 6.



Testicles of a small fox-terrier. The right is of natural size and descended, the left of small size and undescended (in groin).

[6] In all the animals, with the exception of man, and, I believe, the chimpanzee, the connexion between the peritoneum and the tunica vaginalis remains as a patent canal into which the vas deferens and the spermatic vessels and nerves more or less project, carrying the peritoneum before them. In man and in the chimpanzee—the only two vertebrates which assume the erect posture—this connexion is obliterated at or soon after birth.

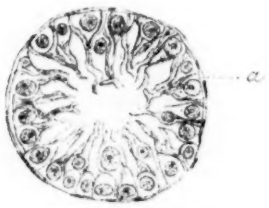
[7] In fox-terriers, which are now so highly bred in this country, failure in descent of the testis on one side is not at all uncommon, and it is well known that this condition not infrequently happens in horses. The entire horse with one testicle descended and the other retained within the abdominal cavity is so common as to be known as a "rigg."

[8] Journal of Anatomy and Physiology, vol. xxvii., p. 483

seen in the normal state before and after puberty, the central cells having disappeared. (See Fig. 7.)

Thus the seminal tubules in the testis replaced in the abdominal cavity, are incapable of producing spermatozoa. They undergo, indeed, a degenerative change, being no longer like the tubules which characterise the pre-puberty state of the testicle, inasmuch as they no longer

FIG. 7.



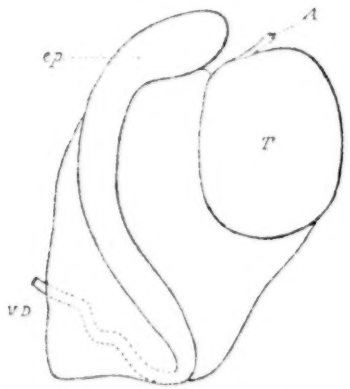
Section of seminal tubules from left undescended testis of dog.

remain solid, but the central cells disappear, while the peripheral ones are converted into a layer of columnar cells which taper towards the lumen of the tubule.

UNDESCENDED TESTIS IN THE ADULT.

I come now to the account of the undescended testis in the adult man and in the full-grown dog. There is a specimen (1065) in the Pathological Museum of the University of Cambridge, the description of which in the catalogue is as follows: "Right testicle situated at the external ring. It [testis] is small, though plump, and the epididymis is disproportionately large. There is a sac of a congenital hernia,

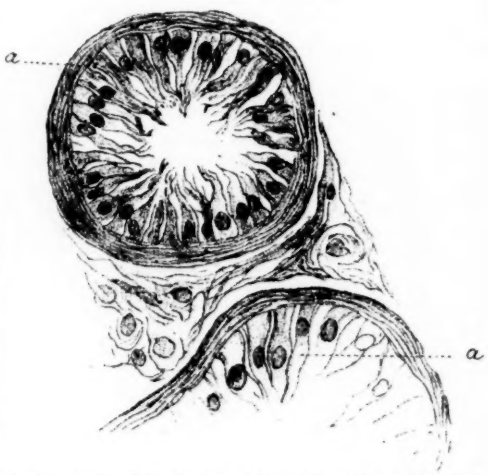
FIG. 8.



Right undescended (in groin) testis of a man, natural size. *T*, Body of testis. *A*, Appendix. *ep*, Epididymis. *V.D*, Vas deferens.

from which a blue glass rod has been passed into the tunica vaginalis. The left testicle is of natural size and occupied the natural position in the scrotum. On microscopical examination, after the specimen has been some months in spirit, large cells, like sperm cells, are found in the epididymis on both sides, but spermatozoa in the left only." The body of the right testis measures 3 cm. in length by 1·8 cm. in breadth, whereas that of the left measures 4·5 cm. in length by 3 cm. in breadth. A section of the right testis shows the seminal tubules to the eye, as in a normal organ, but they are more distinct, and, therefore, more easily seen, the intertubular connective tissue being relatively increased. Under the microscope the seminal tubules in this right testis are found to be reduced to at least one half their natural size, and the intertubular connective tissue is relatively increased. This intertubular tissue is composed in the main of spindle-shaped connective tissue cells, with but little intervening fibrous matrix, and in it there are hardly any traces of the peculiar interstitial cells frequently found in the normal and full-grown organ. The seminal tubules are, in addition to being reduced in size, altered in their structure. The tunica propria is much thickened and as seen in transverse section forms a sort of collar round the tubule. This tunic is composed, as in the natural condition, of two or more layers of flattened connective-tissue cells, with but little intervening fibrous matrix, the thickening seen in the specimen being mainly due to the formation, on the side next the lumen, of a layer of newly formed, almost transparent, fibrous tissue, with only one

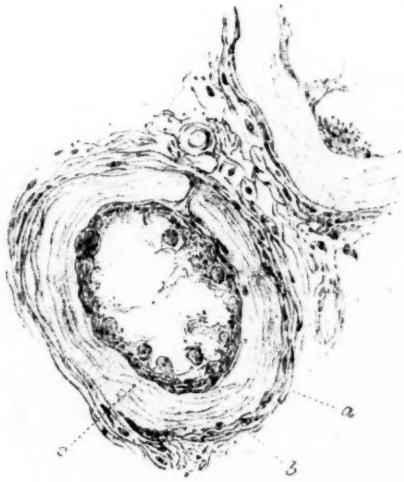
FIG. 9.



Section of seminal tubules of an undescended testis in an adult man. × 350.

or two flattened cells embedded in the matrix. This layer of tissue I have often found, and always in the same position in other cases of atrophy. The epithelial cells in the seminal tubules are greatly reduced in number, and in the majority of instances the cells form only a single layer, which lines the thickened and altered tunic and which

FIG. 10.



Section of seminal tubules of an *undescended* testis in an adult man. Tunica propria much thickened and epithelium atrophied. × 350.

encloses a small central lumen. The cells differ from the normal, inasmuch as they are of columnar shape, with broad bases and narrow free extremities which project into the interior of the tubule and bound the central lumen when present. In each of these cells a round or ovoid nucleus may be seen occupying a position near the basal or attached

end of the cell, and in each the protoplasm is finely granular, with a tendency to fibrillation in the long axis of the cell. Here and there among these cells smaller cells, with irregular outlines and indistinct nuclei, may be seen. In a few of the tubules the epithelial cells are not so regularly arranged, but they are of irregular outline and are massed together, as it were, there being no central lumen. In none of these tubules is there any evidence of spermatogenesis in the epithelial cells, and there is no evidence of spermatozoa in the interior of the tubules. In short, the seminal tubules are small, their tunica propria is thickened, and the epithelium is reduced to a single layer of columnar-shaped cells. I have examined several others in which the structural condition of the tubules was similar to the above.

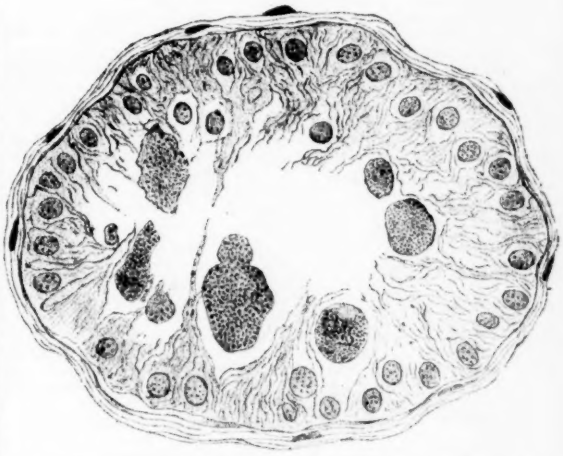
THE RETAINED TESTES IN THE DOG.

In a dog three to four years old the right testis was found in the groin just beyond the external abdominal ring. It was small and measured 15 mm. in length by 12 mm. in breadth. The left testis, which was in the scrotum, was of full size, and its body measured 20 mm. in length by 15 mm. in breadth. With the naked eye the only difference observable was that the tubules were more apart, and therefore more distinct in the retained organ. The seminal tubules are not more than one-half the size of those in the left or descended organ. In each tubule the tunica propria is somewhat thickened, the cells being columnar and tapering and completely filling the tubule. This difference from the normal is very marked.[9] There is no evidence of spermatozoa or spermatogenesis.

Thus, both in man and in the dog the retained testes are of small size; they alike present a definite structure that is almost, though not quite, peculiar to them; and they are not in that state which is fitted for the production of spermatozoa. Hunter expressed the view that the retained testes were, *ab initio*, imperfect in their structure, and that it was owing to this imperfection that they failed to stimulate into activity the mechanism of descent, and thus they remained undescended. Curling stated that this was not the case in the majority of instances, and he considered that the testes when retained are in structure like the testes before the onset of puberty. That this view, however, is not correct is shown by a comparison between the structures of the retained and of the undeveloped organ. In the former, as we have seen, the tunic of the tubules is thick, and the epithelial consists, as a rule, of a single layer of columnar cells; whereas in the nominal condition of the child the tubules consist of solid rods of small polygonal cells, and each is surrounded by a thin tunica propria. Godard, who is followed by Monod and Arthaud, maintains that the retained testes acquire their natural structure, but he specified that their secretion does not contain spermatozoa. A careful microscopical observation would, however, have shown him that, although to outward appearance the testes in the two cases (descended and retained) are similar, the intimate structure is very different. Folin and Goubaux, with whom I concur, found that both in man and the domesticated animals, not only were the undescended testes of small size, but the seminal tubules were atrophied and incapable of producing spermatozoa.

Further, if a properly descended testis of a dog be replaced in the abdominal cavity without injury to the structures of the cord it undergoes similar changes, as may be gathered from the result of the following experiment in a fox-terrier three months old. On May 22nd, 1891, the left testicle, which measured 15 mm. in length by 12 mm. in breadth, was replaced in the abdominal cavity. At the beginning of October in the same year the right testicle, which had not been interfered with, began to show signs of growth, and by the beginning of March it had reached its full size. The dog was killed on March 9th, 1892, when the right testicle measured 30 mm. in length by 20 mm. in breadth, this being the usual size for a grown-up dog of this breed. The left testicle was found attached to the peritoneum at the brim of the pelvis, and hanging down into that cavity; the vas deferens was coiled, but the spermatic vessels, though somewhat smaller than those of the opposite side, were normal and not in any way interfered with in their course. The body of the testicle measured 17 mm. in length and 13 mm. in breadth, and was small and roundish, but of natural appearance, though softer than its fellow. The epididymis was small though relatively larger than the testis, as is usually the case in young animals. The tubules in the left testicle were only about one-half of the size natural in a full-grown organ. The tunica propria of each tubule was somewhat thickened, and the tubules were widely separated from one another. The epithelial lining of these tubules was composed of a single layer of columnar cells resting upon the inner surface of the tunica propria. These cells contained large, round, clear nuclei, which were found near the basal or attached ends of the cells; their protoplasm was delicately fibrillated in the long axis of the cells and was

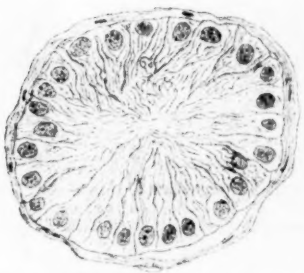
FIG. 11.



Section of seminal tubules of a testis of a full-grown dog replaced in the abdominal cavity thirty days before death. × 450.

comparatively free from granules, as in Fig. 12. The cells themselves were prolonged to the centre of the tubule in fine converging processes composed of the delicately fibrillated protoplasm of the cells. There were no spermatozoa, or any trace of their formation, in any of the tubules. The tunica albuginea of the testicle, together with the septa and the intertubular connective tissue, were not changed beyond a relative increase due to a diminution in the size of the seminal tubules. In the epididymis the tubules were small and contracted, but they were all lined by the usual single layer of columnar epithelial cells bearing fine long cilia. In

FIG. 12.



Section of seminal tubules of a testis of a full-grown dog which was replaced in the abdominal cavity three months before death. × 350.

the central lumen, which was correspondingly small, there were no spermatozoa, but in their place a few coarse, clear granules. The right testicle and epididymis were normal. In the seminal tubules there was abundant evidence of the formation of spermatozoa, the tunica propria being lined by cubical cells; the cells nearer the lumen, which were altogether absent in the left testicle, showed the division of their nuclei preparatory to the formation

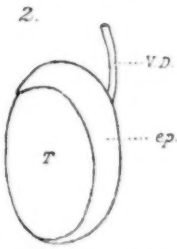
[9] See, further, a paper by me in the Journal of Anatomy and Physiology, vol. xxvii., p. 485.

of spermatozoa; and in the tubules of the globus major of the epididymis there were numerous spermatozoa.

It appears, therefore, that:—1. The retained testis in a man and in the domesticated animals is of small size, and the seminal tubules, though smaller, are more distinct, owing to the disproportionate amount of intertubular connective tissue. 2. The retained testis in a boy is of smaller size and is softer than its fellow which is in the scrotum. When the normal testis of a puppy is replaced in the abdominal cavity it dwindles a little and becomes softer than natural, and fails to grow as its fellow left undisturbed in the scrotum. The walls of the tubules in the retained testes of a man are often thick from the formation of fibrous tissue on the inner surface of the tunica propria, and there are no traces of spermatogenesis. 3. The testes do not acquire their full (spermatozoa-producing) function unless they reach and remain at the point of descent furthermost from their primary position. 4. The testicle of a full-grown animal, when replaced in the abdominal cavity soon dwindles to two-thirds or one-half its natural size and presents precisely the same structure as does the replaced testicle of a young animal.

It may be well to give briefly an account of the testicle during the non-rutting period in a rutting animal, and to compare with it the undescended testis of man. For this the

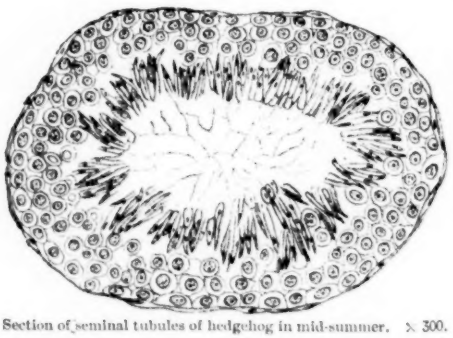
FIG. 13.



Testis of full-grown hedgehog in mid-summer. Natural size.

hedgehog, an animal that is procurable at any time, will serve our purpose. In *mid-summer*, when the rutting season is at its height, the testis of the hedgehog is of full size,

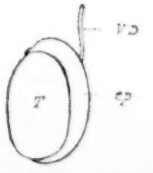
FIG. 14.



Section of seminal tubules of hedgehog in mid-summer. × 300.

measuring 25 mm. in length by 15 mm. in thickness from before backwards. The tunica albuginea is tense, and the contained structures are soft and at once bulge through an

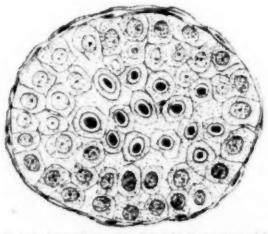
FIG. 15.



Testis of full-grown hedgehog in mid-winter. Natural size.

incision in it. The seminal tubules are large and the epithelial cells are actively engaged in the production of spermatozoa and seminal secretion, which fill and occupy the somewhat large central lumen. In *mid-winter* the testes are in the abdomen and of hardly half the size they attain in summer, measuring 15 mm. in length by 10 mm. in thickness from behind forwards. Their structure is firmer and does not bulge on section of the tunica albuginea. The seminal tubules are much reduced in size and are composed of solid rods of epithelial cells arranged as follows. At the periphery there is a single and continuous layer of small cubical cells with

FIG. 16.



Section of seminal tubules of testis of hedgehog in mid-winter. × 300

round nuclei and granular protoplasm. Within these are numerous irregular-shaped cells with round nuclei and a large amount of granular protoplasm. Many of these cells are vacuolated. In a few of the tubules there still remains a central lumen, but in none of them is there any trace of the formation of spermatozoa. Thus, the seminal tubules of the testes in *mid-winter* correspond on the whole with those of the undeveloped testes in man and in the dog. The seminal cells are quiescent and show no signs of the formation of spermatozoa.

THE EFFECT OF THE UNDESCENDED TESTES UPON THE GROWTH AND DEVELOPMENT OF THE BODY.

It is of much interest to find that the undescended testes, though incapable of producing their special secretion of spermatozoa, yet are capable of exerting their peculiar and important influence upon the growth and development of the body. When only one testis fails to "descend" to the termination of its destined course, the opposite organ having duly reached the scrotum, the person grows, as we often have the opportunity of observing, just as if both organs were in their natural position. The fully descended testicle produces spermatozoa in abundance and usually acquires a larger size than natural, due to what is called "compensatory hypertrophy." Thus, a person who has one testis natural and in the scrotum, whether the opposite be undescended or absent, is in possession of full virility. But when both testes fail in their descent they, as we have just seen, are incapable of producing spermatozoa, and in consequence the person is sterile. In spite, however, of the imperfection of the organs, such a person acquires all the external bodily characteristics of the male and is in all respects, except in the power of procreating, like an ordinary man. His shoulders are broad, his pelvis is narrow, his beard and moustache and hair on the pubes are well grown, his voice is deep and manly, and his penis is large and well developed, though the scrotum is small and empty; so that the external appearance, except that of the scrotum, would give no clue to the condition. I know of one such person who is well formed and who is capable of erection and emission, but without issue. It is evident, therefore, that the influence of the testis upon the growth and maintenance of the characteristics of the male is a property independent of their power of producing spermatozoa; and the remarkable fact is established that the spermatozoa-producing work of the testes, possibly even their potentiality for that purpose, is not necessary for the establishment of the influence which those organs exert upon the rest of the body. It is further of interest that, although the natural involution of the testis in the aged is unaccompanied by any corresponding change in the system, yet if the testes in an elderly person are removed the accessory sexual glands, at any rate, are found to undergo changes somewhat similar to those which are observed in eunuchs and in eunuchoid persons.

The function of the testes is, therefore, clearly twofold—viz. (1) to control and determine the development of the characteristics of the male sex, and (2) to produce spermatozoa for the reproduction of the species. These two functions are usually exercised together, but that the former may

be exercised when the latter fails seems to indicate that the production of spermatozoa is the more specialised property and attained with more difficulty. In what manner is this sexual effect of the testes upon the body produced? Is it through the medium of the nervous system as an ordinary reflex, or is it through the medium of some substance produced by the seminal cells (whether they form spermatozoa or not) and absorbed into the system, which by influencing the nerve centres or in some other way controls growth and nutrition? Brown-Séquard tried upon himself, when he was seventy-two years of age, the effect of the subcutaneous injection of a watery extract of the testes of a vigorous dog two or three years of age, and relates that after five daily injections he lost his feebleness, felt many years younger, and was capable of doing more work. The testicle extract has since been used in various diseased conditions, chiefly those associated with nervous debility, but with only temporary results. During the last few years a watery extract of the thyroid gland has been administered with signal success in myxœdema, in which disease the thyroid gland atrophies and ultimately disappears. The disease myxœdema arises from the want of the influence of some unknown substance, which the thyroid gland, as is supposed, elaborates, upon the nutrition centres of the central nervous system. It may be that the testis in like manner elaborates, irrespectively of its spermatic secretion, some chemical substance which by a similar influence not only controls the growth and development of the body at puberty but maintains the manly characters then acquired throughout life.

ABSTRACT OF

The Goulstonian Lectures

ON

THE SUPRA-RENAL BODIES.

Delivered before the Royal College of Physicians of London on March 19th, 21st, and 23rd, 1895,

BY H. D. ROLLESTON, M.A., M.D.CANTAB., F.R.C.P. LOND.,

FELLOW OF ST. JOHN'S COLLEGE, CAMBRIDGE; ASSISTANT PHYSICIAN AND LECTURER ON PATHOLOGY AT ST. GEORGE'S HOSPITAL.

LECTURE III.[1]

Delivered on March 23rd.

EXPLANATION OF ADDISON'S DISEASE: (1) NERVOUS THEORY; (2) THEORY OF SUPRA-RENAL INADEQUACY (*a*) AS EXCRETORY GLANDS, (*b*) AS SECRETORY GLANDS.—TREATMENT OF ADDISON'S DISEASE BY SUPRA-RENAL EXTRACT.

THE lecturer recalled the early view as to the absence or unimportance of any function of the supra-renal bodies. This negative view was the physiological basis for the *nervous* theory, which explained the connexion between disease of the supra-renal bodies and the symptoms of Addison's disease by the secondary morbid lesions induced in the neighbouring semilunar ganglia and sympathetic. Thus the languor and collapse were due to the altered condition of the abdominal sympathetic, and the vomiting and pigmentation to the irritation of the sympathetic nerve trunks by the caseous supra-renal bodies. Arnaud and Alexais had accepted this idea, but had limited the nervous changes to the ganglia in the capsules of the adrenal bodies, and had thus been able to explain the fact that in cases of Addison's disease the solar plexus &c. were sometimes quite normal. A modification of the earlier nervous theory was that there need not be any change in the adrenal bodies as long as there was some lesion of the sympathetic. Changes in the supra-renal bodies had even been thought to be trophic in nature and due to injury of the sympathetic. The lecturer said the nervous theory was untenable, since (1) in some cases of Addison's disease the abdominal sympathetic was normal, and (2) Addison's disease was occasionally due to simple atrophy of the supra-renal bodies without any inflammatory change around them. Moreover, chronic irritation of the abdominal sympathetic due to other causes, though it might be associated with pigmentation, did not give rise to Addison's disease.

The theory of supra-renal inadequacy assumed functional activity on the part of these glands. Interference with this function led to an altered condition of the body fluids, including the blood; hence this theory might be called the *chemical* theory in contradistinction to the *nervous* one.

BEARINGS OF MORBID ANATOMY ON THE THEORY OF SUPRA-RENAL INADEQUACY.

Destructive tuberculous lesions and atrophy of the supra-renal bodies were known to give rise to Addison's disease. But it might be objected: 1. That these bodies were sometimes extensively destroyed by tubercle or new growth without any symptoms of Addison's disease. In answer to this the lecturer said that in such cases the adrenal affection was usually part of advanced disease elsewhere which had killed the patient before the symptoms of Addison's disease had had time to develop. In addition it was possible that compensatory hypertrophy of accessory supra-renal bodies might occur, and that thus supra-renal inadequacy was obviated. 2. That in cases of Addison's disease the supra-renal bodies were found to contain a comparatively small amount of caseous tubercle, perhaps less than in other cases where no symptoms had been present. In reply to this it might be urged that this failure in compensation might be due to inherent want of vitality, concomitant atrophy, or to pressure exerted by the tuberculous material on the efferent vessels of the organ, thus rendering the organ functionless. 3. That in some cases of Addison's disease the adrenal bodies were healthy, but that the sympathetic was involved in adhesions or growths, such as lymphadenoma. It was possible that here again the vessels of the supra-renal bodies were so interfered with that the organs were practically placed outside the circulation. The facts of morbid anatomy were compatible with the theory of supra-renal inadequacy. The question whether Addison's disease was a toxæmic condition could not be definitely answered in the affirmative, but from a comparison with other chronic auto-intoxications, such as uræmia, pernicious anæmia, and perhaps myxœdema, it appeared probable that it was so. Extended research into the properties of the urine was urgently needed to determine whether the urine in Addison's disease was more toxic than in health. Oliver and Schäfer had found that the urine of Addison's disease was not more toxic than ordinary urine. This observation militated against the view that Addison's disease was a toxæmia. The toxic condition of the blood in animals after removal of the supra renal bodies, and the analogy with other diseases, suggested a toxic origin. For the present the question should remain open. The symptoms of Addison's disease could be explained as due to toxic influences. The extreme debility might be due to a poison like curare, the gastro-intestinal phenomena to an irritant poison, and the pigmentation to the constant influence of a toxic body on the sympathetic, leading to an altered condition of the walls of the vessels of the dermis, and thus to increased transference of pigment to the epidermis.

FUNCTION OF THE SUPRA-RENAL BODIES.

The lecturer then discussed the nature of the function of the supra-renal bodies. Were they excretory or secretory organs? McMunn's theory that they picked up effete blood pigment and removed it with its accompanying proteids from the blood was criticised. No accumulation of pigment had been found in the blood in Addison's disease, and as the result of experimental removal no such increase had been proved. There was no increase in the urinary pigments in Addison's disease. McMunn had laid stress on the presence of a pigment—urohæmatoporphyrin—in the urine of Addison's disease, which he regarded as evidence that the supra-renal bodies were not discharging their pigment-metabolising function. This observer had, however, found urohæmatoporphyrin in the urine of enteric fever, measles, cirrhosis, &c., where the supra-renal bodies were not specially affected. This detracted considerably from the force of his argument. As a chemical body urohæmatoporphyrin did not exist; it had been shown to be a mixture of a larger quantity of hæmatoporphyrin and a smaller quantity of urobilin. Garrod had shown hæmatoporphyrin to be increased in tuberculous diseases; since Addison's disease was generally tuberculous, any increase of hæmatoporphyrin, if this did occur, would thus be accounted for. Moreover, hæmatoporphyrin was increased in amount in such various conditions as sulphonal poisoning, gout, phthisis, and pneumonia, and its presence had, therefore, no special significance. From these considerations it was highly improbable that the supra-renal bodies had any special action on effete blood pigment. The question whether toxic bodies were normally removed from the blood by the supra-renal bodies and rendered innocuous was then considered. If the

[1] Lectures I. and II. appeared in THE LANCET of March 23rd, 1895.

supra-renal bodies were crushed and left to be absorbed *in situ* no toxic symptoms resulted; therefore they did not contain the poison they might be supposed to excrete. The toxæmia produced by experimental removal of the supra-renal bodies had been shown to be counteracted by the injection of supra-renal extract. If these organs excreted poisons of the same nature as those accumulating on their removal and thus producing toxic symptoms, injection of the extract would only intensify the existing toxæmia. Again, Abelous and Langlois found that experimental removal of the organs gave rise to a toxic effect analogous to that of curare, while Schäfer and Oliver had shown that the physiological effect of the extract was not at all comparable to that of curare. Therefore the body or bodies giving rise to a toxic condition of the blood in "acapsulated" animals were not the same as the active principles of supra-renal extract. There was, therefore, strong evidence that the supra-renal bodies did not remove effete blood pigment or excrete and metabolise toxins, and that their function was not excretory.

THEORY THAT ADDISON'S DISEASE WAS DUE TO INADEQUATE SECRETION BY THE SUPRA-RENAL BODIES.

This alternative view was strongly supported by the observations of Abelous and Langlois and Schäfer and Oliver. The latter observers had found that, while the healthy supra-renal bodies of man yielded an active extract, these organs in Addison's disease provided an extract which was absolutely inert. What was the method of action of this internal secretion? 1. It might possibly antagonise poisons resulting from the general metabolism of the body in two ways: (*a*) By exerting a ferment-like action on and thus destroying it. If its active principle was a ferment, the activity of the extract would be destroyed by boiling. Moore had shown that, although long-continued boiling abolished the activity of the extract, boiling for some minutes did not have this effect. This view, therefore, was improbable. (*b*) By directly neutralising the toxic bodies in a manner analogous to the action of an alkali on an acid. Schäfer and Oliver's experiments showed that the extract had a definite physiological effect on healthy animals; hence the secretion did not act merely as a chemical antidote. To prove whether the extract had any action at all analogous to that of a chemical antidote experiments like that of Buchner with tetanus toxin and antitoxin should be made. 2. The secretion might act as a stimulus to the various tissues of the body. The researches of Schäfer and Oliver were in favour of this view. This tonic influence might act—(*a*) by regulating their nutrition and activity and preventing the formation of any toxic bodies; or (*b*) by increasing the resistance and defensive powers of the tissues, including the white blood-corpuscles, so that they were thus enabled to resist and to destroy the toxic bodies produced by the metabolism of the body. The later hypothesis was attractive, but as yet there was not sufficient evidence to warrant any definite opinion.

In conclusion, Addison's disease was due to inadequate supra-renal secretion, but whether the deficiency in this internal secretion allowed a toxic condition of the blood to develop, or whether it led to a general atony and apathy, could not be settled at the present stage of our knowledge.

TREATMENT.

The treatment of Addison's disease by supra-renal extract was yet in its infancy. Dr. G. Oliver had recorded two cases which had reacted in a satisfactory way, in that the pigmentation diminished, nausea disappeared, and weight was gained. The lecturer had had a case of Addison's disease under treatment since June, 1894; pigmentation remained, but nausea and languor had been relieved. It was important to ascertain the appropriate dose of the extract, otherwise its therapeutic value might be discredited from the employment of inadequate quantities. Forty-four grains of the gland in the day were not an excessive dose, though this was about the weight of the medullary parts (the active portions) of both human supra-renals. Artificial gastric digestion did not impair the activity of the extract, so the administration by the mouth was physiologically correct.[2] Dr. G. Oliver had suggested the therapeutic use of supra-renal extract as a hæmostatic in purpura, hæmophilia, &c., and in exophthalmic goître, cyclic albuminuria, diabetes, and in the conditions of vaso-motorial paresis associated with the menopause.

[2] Schäfer and Oliver: Proceedings of the Physiological Society, March 16th, 1895.

AN OPERATION SUGGESTED FOR SOME CASES OF INTUSSUSCEPTION.

BY F. T. PAUL, F.R.C.S. ENG.,
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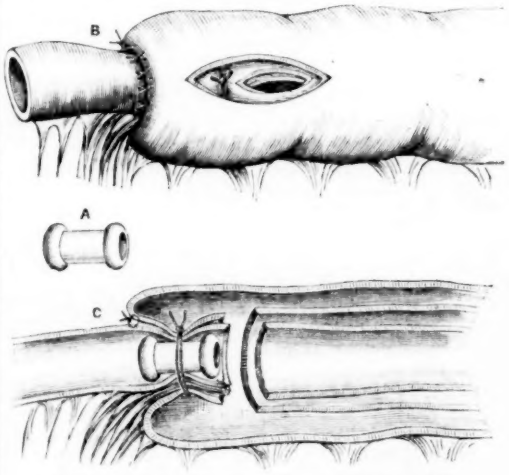
WHEN the abdomen is opened for intestinal obstruction and an irreducible intussusception is discovered to be the source of the mischief some form of enterotomy or enterectomy is absolutely necessary. It is too often urged that some specific operation is the only right and proper means to adopt under the circumstances; but experience very soon teaches that there is no kind of intestinal obstruction for the relief of which there is only one best method. The varying circumstances of each case should be met by various procedures, and the surgeon should be prepared to meet the many unlooked-for difficulties which appear in almost every laparotomy undertaken for this condition. Cases of acute intussusception in children are a little less fatal under medical treatment than those in which the obstruction is due to other causes. For this reason the majority of them come under the surgeon's hands at a very late stage of the case, and it is unfortunately the rule rather than the exception to find them in a state of collapse and totally unfit for an extensive resection of bowel. In such cases it is simply throwing away the last chance of life to attempt anything more than the establishment of an artificial anus or a fæcal fistula. Again, there are other patients in whom the constitutional condition



A, Light metal tube with expanded, rounded ends. B, Incisions in the bowel, and ligature *in situ*. C, Diagramatic section of invaginated bowel, showing position of tube.

may be better whilst the intussusception itself is hopelessly irremediable from gangrene or some other cause. In such enterectomy is imperative, and one has to decide after removing the damaged bowel whether the patient will have the better chance by immediately approximating the ends or by bringing them out of the abdomen and approximating later. When collapse and gangrene are both present—and they are generally associated—few, I think, would hesitate in deciding upon the latter course; but when the patient is in fair condition these are suitable cases for immediate approximation, and it only remains to determine which method best fits the circumstances present. Fortunately, in many patients the condition is less grave, and in these an operation on the lines first suggested by Mr. A. E. Barker[1] seems to be the best. The object of this short communication is to propose a modification of his method which may possibly prove serviceable in some cases. When the invagination is short and easily brought out through the incision in the outermost or receiving layer of the intussusception Mr. Barker's operation perhaps leaves nothing to be desired; but when the invagination is too extensive for

[1] THE LANCET, Jan. 9th, 1892.

this, and has to be divided *in situ*, the operation certainly has dangers. There are many large vessels in the invaginated mesentery which, being at the bottom of the wound, are difficult to get at, and cannot be readily controlled by sutures as in the slighter cases; also the tendency which the large stump of mesentery has to retract when the weight is removed is so great that the preliminary sutures are liable to tear out, thus releasing the invagination and rendering it necessary to approximate the ends by another method or bring them out of the abdomen. I therefore propose that the surgeon should be armed with a short metal tube made of aluminium and shaped somewhat as in the engraving (Fig. A). The preliminary sutures—very few of which are required—connecting the intussusceptum with the intussuscipiens and the first incisions are made as recommended by Mr. Barker; then the returning and entering layers are also respectively incised (see Fig. B), and the tube grasped with forceps is pushed into the position shown in Fig. C. A stout silk ligature is now made to surround the intussusceptum just above the incisions in it, and is tightly tied. Finally, the intussusceptum is cut off below the ligature and withdrawn, and the wound in the outer layer is closed in the usual way.

I have not yet had the opportunity of trying this plan, and as one may have to wait indefinitely for a suitable case I make the suggestion public, in order that if any other surgeon is so disposed he may give it a trial. The end aimed at is exactly the same as that attained by other methods; but it seems to me that there are certain advantages, of which the following, if real, are important: (1) a saving of time, as the ligature replaces many sutures and also closes the bloodvessels before they are divided; (2) the operation is practically bloodless; and (3) disengagement of the invaginated stump is impossible, as it is firmly held by the ligature for at least three days.

Rodney-street, Liverpool.

A CASE OF RABIES.

BY B. KEMP, M.R.C.S. ENG., &C.,
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A BOY ten years of age was bitten in the lower lip by a strange dog on Saturday, Nov. 17th, 1894. He at once told his father. The latter and some other men gave chase to the animal, but it got away, and has not been seen or heard of since. The father said it was a black-and-tan sheep dog. He thought it was rather lame and ran in a staggering manner, like a person half drunk. The boy was brought to my surgery about an hour after being bitten. The lower lip was torn quite through, leaving a small gaping wound. I washed and dressed it with boracic acid and inserted one suture, and ordered the wound to be dusted occasionally with boracic acid powder. I saw the patient again on the Monday and Thursday following the day of the accident; the wound was quite healed, and the boy appeared well. I may say that it was not known that the dog was rabid. The patient's mother told me that he went to school after staying at home for a week, and did so until Dec. 8th. During this time he had not eaten so well as usual, and had become thinner, otherwise he appeared to be well. On Dec. 9th he first complained of not being able to swallow food or liquids so well as usual, and of thirst. On Dec. 10th he could not swallow anything, the thirst was worse, and he was now thought to be suffering from cold. He was ordered to have warm applications applied to the throat and to be kept warm in the house. He said his throat was not sore, but felt as if there was something lower down which prevented him from swallowing anything. He slept fairly well in the night. On Dec. 11th the symptoms were the same; a dose of castor-oil was given him by his mother; he swallowed a portion of it with great difficulty and was put to bed at 7 P.M. The boy did not sleep and awakened his mother about 3 A.M. on Dec. 12th by calling out. He was now very restless, looked wild, said he was going to die, and was unable to swallow anything. Soon after 6 A.M. he had the first real spasm, which alarmed his parents; he tried to jump out of bed whilst in it. His father came for me, and on hearing his account I suspected the nature of the illness and went at once. On arriving about 7 A.M. I found the boy in great distress, with wild staring eyes, foaming at the mouth, constantly spitting, and the muscles of the neck rigid. I gave him a teaspoonful of a strong solution of chloral hydrate, most of which he got down, and it at once brought on spasm of the muscle of the pharynx and larynx, also of the thoracic muscles; the eyes were almost protruding; there were lividity of the face and difficulty of breathing. Two men had the greatest difficulty to prevent him from springing out of bed. He complained of a strange sensation in the right arm; the fingers of the right hand were rigid, and he wanted some one to hold the hand. He was quite sensible and talkative, said he was going to die, and soon afterwards expressed a wish to see his clergyman, who came. On seeing the serious nature of the case I recommended the patient's immediate removal to the hospital at Wakefield, sent for a cab, and along with his father took him there. Soon after my arrival, and before removing him, he became much calmer and had no more convulsions until after his arrival at the hospital. On the way to the hospital the muscles of the neck were rigid and viscid, and frothy mucus was constantly working out of the mouth. He talked all the way sensibly, but seemed now afraid of our doing anything for him, such as covering him up in the blankets, and would do it for himself. He continued in this state until after arriving at the hospital, a journey of three miles, when he was at once put to bed. The convulsions now came on rapidly. The surgeon (Mr. Walker) and the house surgeons quite agreed with me as to the nature of the case. A strong hypodermic injection of morphia and strychnia was given, also chloral by the rectum. This kept him quiet for about an hour, and he slept. This I was told by the house surgeon. After an hour the spasms came on more frequently, and he died in one about 4 P.M. the same day, nothing appearing to have any effect upon them. He was conscious to the last.

Horbury, Wakefield.

DEGREES OF KNEE-JERK.

BY LEONARD J. KIDD, M.D. BRUX.

FOR the last two years or more I have been in the habit of recording the degrees of the knee-jerks by means of a scheme which was suggested to me in the following way:—I had often seen physicians mark a particular jerk as + or ++ with the purpose of conveying the meaning of exaggerated and greatly exaggerated respectively. These signs brought to my remembrance the well-known "Degrees of Intra-ocular Tension" of the late Sir W. Bowman. I thought one might frame a scheme of various degrees of knee-jerk by means of *plus* and *minus* symbols. It was clear to me that to be of any value, apart from that of saving time in clinical work, these signs must convey a definite meaning, so that any particular *plus* or *minus* jerk could be at once put into a certain category. I found that there were three distinct groups of excess of jerks and three of diminution, the last being the absent jerk if I may speak of a diminished jerk as being an absent jerk. These, together with the normal degree, make up seven degrees; for those who wish to follow literally the analogy of Bowman's notification an additional *plus* query and *minus* query can be added, but I think these are not needed.

After very many attempts the best classification I can suggest is as follows:—

K.J.n. = normal jerk—i.e., of normal quickness and of normal excursion of the leg and foot. Right jerk written as R.K.J.n.; left jerk as L.K.J.n.

K.J. + 1 = distinctly increased quickness and excursion, but not obtained by a blow above the patella. K.J. + 2 = still more lively and extensive, and obtained by supra-patellar blow. K.J. + 3 = as in K.J. + 2 but with addition of clonus of anterior thigh muscles; this is usually found, I think, only in cases where foot-clonus is also obtained.

K.J. − 1 = distinctly diminished quickness and excursion, but obtained without reinforcement—e.g., by Jendrassik's method. K.J. − 2 = still more sluggish, and obtained only with reinforcement. K.J. − 3 or 0 = absent, even on reinforcement and after many careful trials by all known methods.

I occasionally find that both jerks come within the same category, but one is more marked than in the other. This I have seen mostly in that very common class styled K.J. + 2. In such cases, if one jerk is about half way, as to quickness and excursion, between + 2 and + 3, but the other very nearly as quick as + 3 usually is, I call one + 2½ and the other + 2¾. By this means a still more accurate result is obtained than by simply calling both + 2. The same can be

done, if necessary, with the *minus* degrees. I have recently seen a case of great obscurity (to me and to three other medical men who previously saw the patient) where I have marked: L.K.J. + 2¾; R.K.J. + 2½. In this case there is in the left foot only a condition of spurious ankle-clonus. Even with the patient's boots off I have been unable to obtain true and decided clonus in the left foot. Now, the point of paramount importance in this case is to know whether this is one of organic disease. Should the L.K.J. advance to + 3 I shall consider it is almost certainly so. It is, I believe, generally considered by the best authorities that K.J. + 3 means organic disease in ordinary clinical work. Possibly it would be found in many cases of very marked supervenosity of the blood. It was obtained in Dr. Risien Russell's experiments on rabbits artificially asphyxiated[1] about two and a half minutes after the trachea was clamped. I think that K.J. − 2, and possibly K.J. − 1, may sometimes point to the approach of tabes or other diseases characterised by absent jerks in their fully developed stages. But in these two *minus* degrees we have to bear in mind the element of muscular rigidity on the part of the patient; stoutly built people frequently, and children sometimes, present jerks of sluggish response and difficult to obtain at the first stroke. Personally, I attach no diagnostic importance to the not uncommon flinching on the part of patients (these are generally, according to my experience, in that common class K.J. + 2), or to the patient's sensation of the jerk up the thighs and back. Some physicians, however, hold that these features point to "functional" disease as against organic; but I have seen them in cases of undoubted organic disease, and they are, of course, often absent in the functional cases. A jerk which comes into the class K.J. + 2, but which is obtained by a mere flick of the finger-nail, we should usually call + 2¾, I think, as it shows very great myotatic irritability. I have used the above scheme myself for quite two years with considerable saving of time; anyone will see, I think, that any jerk can be easily, quickly, and without hesitation placed in one of these seven degrees. In testing the jerk I always now, after finding it present, strike the quadriceps just above the upper border of the patella. In this way I at once discover whether the case is one of great irritability of jerk; this applies especially to cases presenting merely an increased jerk. I use the ulnar border of the hand first, then a weighted stethoscope, then a tap with the two fingers as in percussion of the chest, and lastly a flick with the finger-nail. By these means I think we best estimate how far the jerk approximates in quickness and excursion to K.J. + 3. Doubtless some, and perhaps many, cases of K.J. + 1, + 2, − 1, and − 2 are cases of organic disease in either early or later stages, but about + 3 and 0 there will, I fancy, be little doubt. I believe that those who give this scheme a trial will soon find it a help, and the initial difficulty of acquiring any new formula is soon overcome by an accurate observer endowed with the invaluable faculty of attention. Should it be widely adopted, the poor over-burdened medical student may find comfort in the thought that we acquire knowledge more readily in the golden time of youth than in the "years that bring the philosophic mind." The ideal method of measuring the knee-jerks appears to me to consist in the use of an instrument, yet to be invented, somewhat on the lines of Mr. Priestley Smith's tonometer, that shall record: (1) the force of the blow which elicits the jerk, (2) the quickness of motor response, and (3) the extent of the excursion of the leg and foot. I have hitherto failed to devise a scheme for recording varying degrees of the other jerks, such as the wrist, triceps, and the jaw-jerk.

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[1] Quoted by Dr. Hughlings Jackson in his Neurological Fragments, No. 5, in THE LANCET of Jan. 20th, 1894.

THE SUPPLY OF ANTITOXIN IN ORMSKIRK.—The Ormskirk Rural District Council at its last meeting resolved to supply diphtheria antitoxin serum and sterilised apparatus to all registered medical practitioners for use within the district free of charge. Arrangements have also been made for the bacteriological examination of samples of doubtful throat exudation, and Mr. Herbert Peck, the medical officer of health, has caused these unwonted facilities to be notified to the members of the profession in his district. It is gratifying to find a public administrative body so promptly taking such liberal and enlightened views of its functions.

THE MECHANICO-GYMNASTIC AND BALNEO-THERAPEUTIC TREATMENT OF CHRONIC CARDIAC DISORDERS.

BY DR. GROEDEL.

THE physical treatment of chronic diseases of the heart has only recently assumed an important place in therapeutics. I therefore wish briefly to state my views of the general treatment of these diseases, based upon an unusually extensive practice of twenty years in Nauheim, and I shall describe what may be called the speciality of Nauheim—i.e., the balneo-therapeutic treatment, adding a few words about the gymnastic treatment and the so-called "Terrainkur" (walking uphill, &c.).

Although formerly treatment by baths was considered as essentially contraindicated for patients suffering from heart disease, a contrary opinion has been expressed by Professor Beneke[1] as early as the year 1859 in his first work on Nauheim, and still more forcibly in his second work, which appeared in 1861. Among those patients suffering from rheumatism who came under his treatment in Nauheim there were eight cases of organic heart disease, and he found that taking the warm brine baths was not only beneficial to their rheumatism, but to a certain degree also to the cardiac trouble. In 1870 Beneke wrote a larger work,[2] in which he explained his views more fully, and it was only after this that patients with heart disease, more especially in conjunction with rheumatism, came to Nauheim in great numbers. In a monograph[3] which appeared in 1872 he recorded 101 cases, and he gave a detailed account of 55 of them. In 1875 he published another paper on the same subject in the *Berliner Klinische Wochenschrift*. In these works Beneke draws attention to four main points in the treatment of heart disease at Nauheim—viz., firstly, the removal of rheumatic tendencies whereby relapses of acute rheumatism, which would increase an existing cardiac lesion, are prevented; secondly, the effect of these baths being to promote absorption, he believes that, as they cure other effects of rheumatic inflammation, so they will also be beneficial to the cardiac valvular apparatus; thirdly, he found that the baths always had a soothing effect upon the heart's action even where there was no rheumatism; and consequently, fourthly, he very often found in old valvular disease a striking improvement in compensation, as well as in the general state of health, in cases where no other treatment had been of any service. He has thus the indisputable merit of having introduced a new kind of treatment into the therapeutics of chronic heart disease. A paper written by me[4] described a very marked case and showed how, under certain circumstances, the thermal brine baths containing carbonic acid had the same effect as digitalis on heart diseases. This was the first announcement that the baths "increase the energy of the heart's action." It was followed by other papers[5] which partly brought to light new facts concerning the effect of the baths of Nauheim upon the circulation of the blood, and partly confirmed by many observations what was already known. Thus the assertions made by Beneke that the baths always lessened the frequency of the pulse, and that the decrease lasted for some time after the baths had been taken, were proved to be correct. It was further observed that the blood pressure was increased as well as the power of respiration. From the beginning it was evident that to exclude any form of cardiac disease entirely was impossible, and although Beneke, as well as myself, formerly believed that arterio-sclerosis must be excluded from the treatment for theoretical reasons (increase of blood pressure), yet I can now state that the baths are beneficial in these cases also, for in the course of years I have treated in this

[1] From 1852 to his death in 1883 he was physician at Nauheim, and since 1866 he at the same time occupied the chair of Professor of General Pathology and Pathological Anatomy at the neighbouring University of Marburg.

[2] Berliner Klinische Wochenschrift, 1870, No. 22.

[3] Zur Therapie des Gelenkrheumatismus und der ihm verbundenen Herzkrankheiten. Hirschwald, Berlin, 1872.

[4] Berliner Klinische Wochenschrift, 1873, No. 10.

[5] Groedel: Pneumatometrische Beobachtungen über den Einfluss verschiedener Bäder auf's Herz; Berliner Klinische Wochenschrift, 1880, No. 22. Aug. Schott: Die Wirkung der Bäder auf's Herz; Berliner Klinische Wochenschrift, 1880, No. 25. Groedel: Zur Behandlung Herzkranker; Berliner Klinische Wochenschrift, 1883, No. 25, &c.

way many patients suffering from advanced arterio-sclerosis without in one single instance having found any unpleasant result; on the contrary, the usual effect was a considerable improvement of the circulation and general state of health. Even for aortic aneurysm I can say the same thing, and in a lecture delivered at the Balneologists' Congress in Berlin[6] I described such a case combined with tachycardia paroxysmalis which was greatly benefited after several courses of the baths. Of course such patients are treated differently to those affected only with a nervous cardiac malady, or with a simple disorder of the cardiac valves.

The carbonic acid thermal brine baths tend to soothe and regulate the heart's action and to strengthen the cardiac muscle. A strictly physiological explanation of this effect is not possible, as it is, indeed, difficult to give a perfectly non-hypothetical explanation of the effect of any other bath treatment. It is supposed that, by stimulating the peripheral circulation, a certain influence on the cardiac action is obtained, and that at the beginning of the bath and as long as the impulse of the cold lasts an increase of the intra-cardiac pressure is procured by the contraction of the cutaneous vessels, with an incentive to increased activity of the cardiac muscle. This is soon followed by relief of the internal organs, especially the heart, owing to the dilatation of the cutaneous vessels caused by the carbonic acid, in spite of the cool temperature of the bath. If the contraction of the cutaneous vessels lasts too long, as is the case with the ordinary cold baths, an over-exertion of the heart would take place. The baths are at first prescribed with a temperature little lower than the normal heat of the body, and with such a small quantity of carbonic acid that it can only have a very slight effect on the heart and vessels. If the irritation of the cold has too great an effect, lasts too long, or is not counterbalanced by the carbonic acid (as shown by cyanosis, shortness of breath, or continued shivering), then the temperature of the bath must be raised and the amount of carbonic acid increased afterwards. When the patient can bear the carbonic acid well the temperature is again cautiously lowered. To obtain better nutrition and action of the cardiac muscle it is necessary to stimulate the heart to more powerful action, not continuously, but so as to alternate rest with exercise in a manner suitable to each individual case. As has been seen from the above explanations, the baths answer this purpose perfectly, and therefore it is not necessary to give fuller particulars as to how the cardiac muscle is at length revived and invigorated by the effects of a continued course of them. These different factors combine to produce the favourable result which is so often to be seen in the Nauheim treatment, and therefore the baths are adapted to all kinds of cardiac mischief that require an increase of the cardiac action; it is quite immaterial whether the illness arises from valvular defects or is the result of a diseased cardiac muscle or of atheromatous degeneration of the vessels, or even of generally abnormal nourishment, such as obesity. Great success has also been obtained in conditions which result from irregular innervation of the heart, especially in neurasthenia cordis.

I will now give a short description of the method of treatment. I begin with baths containing only a slight quantity of carbonic acid and salt, having a temperature of from 90° to 92° F., and lasting from five to ten minutes, according to the reaction produced; as time goes on the carbonic acid and salt are increased and the temperature is reduced (sometimes as low as 33° and even lower), the time being increased to fifteen or twenty minutes. At the beginning there is a pause every third or fourth day, but later at longer intervals. I often make the patients begin with weak baths, especially in cases of angina pectoris and aortic aneurysm. They must be warned against taking chill after the bath, as that would produce a contraction of the cutaneous vessels with shivering and oppression of the heart. Most of the patients are ordered from one to two hours' repose in bed after the bath, and it is only in some exceptional cases that I make them take a walk for from a quarter of an hour to half an hour before resting. In prescribing the bath treatment it must always be kept well in mind that a proper proportion of rest and exercise must be given to the heart, and, although at the beginning the former predominates, yet later the latter plays the chief part in the treatment.

Artificial thermal brine baths containing carbonic acid can be prepared in several ways. The proportion of salts contained in the Nauheim springs, which varies in amount from 1 to 4 per cent., often being made still stronger with mother-lye, can be replaced by a corresponding quantity of kitchen salt and Nauheim spring salt or mother-lye. Carbonic acid can be produced in several ways, as with bicarbonate of sodium and muriatic acid, or with bicarbonate of sodium and bisulphate of sodium, &c. The carbonic acid in these baths escapes very quickly; those artificial baths made on the Lippert system are preferable, because in them the carbonic acid is better absorbed; yet even they are far from being so effective as the natural Nauheim bath, from which they differ considerably in many respects. The effervescent flowing baths, "Sprudelstrombäder," a peculiarity of Nauheim, in which the brine, unusually rich in carbonic acid, flows continually through the bath, have a powerfully stimulating effect on the general nervous system, which must operate as a tonic on all the nervous organs, including the innervation of the heart, in a much milder manner, though certainly not less powerfully than the cold water baths. Artificial carbonic acid baths, which were first recommended by Nauheim physicians, have yielded good results, but at Nauheim the natural baths can be graduated most exactly, and the bathing treatment—which was formerly limited to weak carbonic acid baths, and then only applied to a certain number of those patients suffering from heart diseases—has now been brought to such a state of perfection and exactness as is to be found in no other place. Besides those illnesses which are amenable to simple brine baths (scrofula, diseases of women, &c.), the carbonic acid thermal brine baths are especially indicated for affections of the peripheral and central nervous system, gout, and the different forms of rheumatism.

I now come to the other modes of treatment generally in use for disordered circulation in addition to the bath treatment. There can be no doubt that the effect of the baths in a watering place is in a great measure influenced by the continued stay in pure strengthening air and the avoidance of all excitement; it is also quite certain that in such places the patients are a great deal readier to follow the injunctions of the physician as to their whole manner of living, and more especially his directions for their diet, than they are at their homes. Particular attention is paid to dietetics in Nauheim. I am always when prescribing diet led by the special circumstances of each individual case, both as regards the choice of food and the use of alcoholic stimulants &c. It is well known that Oertel recommended a restricted use of fluids in cases of disordered circulation, whether due to obesity or any other cause; but shortly after the publication of Oertel's book I gave it as my opinion in a lecture[7] that this principle should not be carried too far.

It will not be out of place to give here a short account of the so-called "Terrainkur" (walking uphill &c.), which is recommended in the above-mentioned book of Oertel. But I must first refer to the use of gymnastics as an auxiliary means in the bath treatment at Nauheim. For many years gymnastics have been employed by physicians in Sweden for all circulatory disorders, and were eventually introduced into Nauheim. Gymnastics are divided, as is well known, into "active," "passive," and "resisting" gymnastics. It is the last of these that plays the principal part in the treatment of heart diseases. The gymnastic exercise is performed either by means of machines, or manually by persons especially trained for this purpose. The principle and aim of exercises are to stimulate the circulation in the muscles brought into action, whereby the cardiac muscle is reflexly induced to stronger and more abundant contractions, with a simultaneous relieving of the venous, and acceleration of the arterial, portion of the circulation. At first I only allow patients to exercise the upper extremities, and then proceed to some movements of the lower extremities and trunk, where all such movements are to be avoided as prevent free motion of the diaphragm or the wall of the thorax. Especial care should be taken that the patient does not make jerky movements, but slow and continuous ones, at the same time neither holding nor increasing the breathing. The exercise should not be made on a full stomach, and there should be frequent pauses to let the heart, which becomes somewhat agitated, calm down again. Whereas formerly manual gymnastics only were in use in Nauheim, we are now able to employ mechanical exercise, and from the experience that I have had I decidedly prefer

[6] Ueber nervöses Herzklopfen und sonstige auf Innervationsstörungen beruhende Herzaffectionen; Berliner Klinische Wochenschrift and Deutsche Medicinalzeitung, 1890.

[7] Erfahrungen bei der Behandlung von Circulationsstörungen nach Oertel'scher Methode. Congress of Balneologists at Berlin, 1886.

the mechanical gymnastics to the manual. Still, there are some cases for which manual gymnastics are to be preferred, especially for persons who may only do little exercise at a time, several times daily, and with a limited amount of movements. That both kinds of gymnastics should be performed under careful medical superintendence is a matter of course.

The success of the "Terrainkur" is based mainly on the same principles as that of the gymnastics; yet there are also other factors that go to explain the beneficial effect, among which I attribute the greatest importance to its influence on respiration, and so I frequently prescribe pulmonary gymnastics alone as having a very advantageous effect on heart disease. Hill climbing, which was made known to us as a remedy by Stokes, and which under certain circumstances may strengthen a weak heart, was frequently prescribed by me before the publication of Oertel's work, though certainly more often after Oertel had explained the matter more methodically. I have, however, pointed out in the above-mentioned lecture the danger of generalising this method, and what I said at that time (1886) is now universally acknowledged—namely, that Oertel's "out-door exercise" or climbing treatment could only be recommended in cases of diminished cardiac power resulting from general obesity, of insufficiency of the cardiac muscle in patients with anæmia and a general flaccidity of the muscle, or of kyphosis and kyphoscoliosis, causing disordered pulmonary circulation; but it can only be used in few cases of cardiac valve lesion, more especially if it be mitral insufficiency, when the disordered compensation is still in its first stages or when, by previous courses of bathing, an almost sufficient compensation has been attained. Therefore hill climbing is suited to only a small portion of those patients with disordered circulation who come to Nauheim for treatment. Gymnastics are generally to be preferred to Oertel's "Terrainkur" because they do not exert the heart so much, can be regulated better, and are often admissible in cases in which the "Terrainkur" would be absolutely impossible. I have here referred more particularly to walking uphill, for walking on level roads can be borne by every patient with heart disease if it is done at a slow pace, with frequent rests and regular breathing, with the avoidance of all talking during the walk, and if every now and then a deep breath be taken. Of course, the length of the walk must be regulated by the patient's power of endurance. Yet there are always among the patients sent to Nauheim a number for whom the only treatment at the beginning that can eventually lead to a good result consists in absolute rest and repose, avoidance of every kind of bodily exertion, and the use of the bath-chair.

I have still to mention massage, which—usually applied in the form of a general massage—has likewise the effect of removing venous stagnation and stimulating the action of the heart by increasing the circulation in the skin and peripheral muscles. It is often used as an aid to the bath treatment in conjunction with gymnastics, and often also as a substitute for the latter in those not too rare cases in which gymnastics cannot be borne, such as arterio-sclerosis, most cases of aortic insufficiency, or advanced fatty degeneration of the cardiac muscle, &c.

I should not omit to state that in many cases medicinal treatment is not quite inadvisable, but I must also add that I could quote many instances in which all the drugs tried at home had produced no result, whereas the same remedies in connexion with a course of baths had acted in a most striking manner. Yet this does not affect what I have said elsewhere about the contraindications for Nauheim—namely, that it is not advisable to send patients here for a course of the baths on whom medicaments, and especially digitalis, produce no reaction whatever. As regards the success which one may hope to obtain from the treatment we are in some cases very glad to have obtained a temporary improvement, even if it only lasts for a few months; yet by far the greater number of our patients, and especially those who repeat the course of baths regularly, succeed in establishing a relatively good state of health lasting over a number of years.

Nauheim, Germany.

FOOTBALL CASUALTIES.—On the 13th inst., during a match at Flint, a member of the Flint team fractured his femur, and a player in the Holywell team "dislocated his knee-joint."—On Saturday last, in the course of a match between the Bradford and Bowling Old Lane teams, a player "displaced one of his ribs."

A CASE OF

ACUTE PERIOSTITIS FOLLOWED BY RAPID PYÆMIA AND DEATH.

BY ERNEST W. G. MASTERMAN, F.R.C.S. ENG.,
ASSISTANT MEDICAL OFFICER, ENGLISH MISSION HOSPITAL, JERUSALEM.

ON Feb. 13th, 1895, I was called to see a little Jewess, aged eleven years, who had just had a rigor accompanied by high fever, headache, and nausea. There was no history of any fall or any complaint of pain in any of the limbs. It seemed like an ordinary case of ague—which is the commonest fever here—and was so treated. On Feb. 14th I saw the child again. She still had fever with frequent vomiting, and all along the front of the right leg there was a patch of diffuse redness. There was no fluctuation. Unfortunately, I thought it was a case of commencing erysipelas, which is very common here, while acute periostitis is exceedingly rare. This was the more regrettable inasmuch as I was not called to the case again for a week. On Feb. 22nd the patient was admitted to the English Hospital, Jerusalem, and again came under my care. The history during the interval was that on the 15th the patient had been attacked with pain in all her joints. The pain was so severe that the right leg was thought by the mother to be "all right," and the disease to be rheumatism. The child at this time looked very ill and was very anæmic, the lips looking quite white. The temperature was over 103° F., and there was no shivering and no sweating. All the joints were very tender and were held constantly stiffly; the wrists and elbows were especially painful. The right leg was swollen, but all the redness had disappeared. There was distinct fluctuation over the inner surface of the tibia from the internal malleolus for about four inches up the leg. The skin over this area was white and not tense. The patient being put under chloroform, an incision was made and three or four drachms of thick blood-stained pus were evacuated. On introducing the finger about two inches of the shaft of the tibia—on its inner and posterior part—were felt to be bare. Two additional incisions were made for more complete drainage and tubes were inserted. The temperature that evening rose to 104·6°. The bowels were open four times with liquid, but not markedly fetid, stools. She scarcely slept at all that night, was very restless, and in much pain both in the leg and in her joints. From the 23rd to the 26th she continued to have a high temperature, the evening temperature being always two or three degrees above that of the morning. The leg discharged freely. All the joints continued tender, but especially the right wrist and left elbow. These joints were swollen slightly, but not reddened. The child cried out with pain constantly and slept badly. She was made to take a good deal of nourishment in the form of milk and eggs, and stimulant in the form of an ounce and a half of brandy and half an ounce of meat essence daily. She was given quinine and opium and at night sulphonal. On the 26th the two most painful joints were put on splints. She took food better. The tongue became more moist and her general condition seemed to be improved. At 5 P.M., however, she had a rigor lasting five minutes and the temperature rose to 104·8°. She sweated all night after and complained of great pain, especially in the head. The motions were very light in colour, thick, and very foul. There was no vomiting. During the 27th and 28th there were no more rigors. She constantly perspired and was very restless. The bowels were open frequently. On the night of the 27th the breath was noticed to be very foul. A small abscess formed just below the angle of the right scapula and was opened on the 28th, about one drachm of thick white pus being evacuated. She continued to take food fairly well. Her evening temperature was always above 104°. On March 1st the morning temperature was 103°. She had no more rigors, but the profuse perspiration continued. She could not lift her arms at all, but her joints were not externally worse. She was semi-conscious all the latter part of the day. The temperature at 6 P.M. was 104°, and at 10 P.M. 105·4°. She continued semi-conscious and died at 7 A.M. on March 2nd. No post-mortem was allowed. I have thought this case worth recording in spite of its most unsuccessful issue. Firstly, because it exhibits in a marked degree the difficulties attending the diagnosis of cases of acute periostitis; and, secondly, because of the exceedingly rapid onset of the symptoms of

general pyæmia. On the third day after the initial rigor there were symptoms of pyæmia in the form of pain in all the joints, which pain became so severe as for a time to cause the condition of the leg to be almost forgotten. Then, thirdly, it is interesting to notice that though the blood-poisoning was severe enough to cause death on the seventeenth day from the initial rigor, yet the amount of bone affected was quite small. Probably, had the patient lived, the sequestrum, which would subsequently have had to be removed, would have been only about a couple of inches long and one inch broad, and possibly less. It would seem that the poison was in a sufficiently large dose to kill before it could do much damage locally. In notes of a good many cases which I took at St. Bartholomew's Hospital I find that on an average the patients whom I saw there were admitted between two or three weeks after the onset of the disease, many being previously treated for other diseases outside. In these cases, too, there is frequently a large abscess and great destruction of bone. Pyæmia frequently, too, sets in during prolonged suppuration after the original abscess has been opened; but that form of pyæmia is more chronic, and, as far as I can judge, less fatal, especially if amputation is resorted to early enough. In my case I do not believe amputation would have been any good when the child came under my care in the hospital, as the whole system was already so greatly affected.

Jerusalem.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ACUTE DELIRIOUS MANIA FOLLOWING ACUTE DRY PLEURISY IN A GIRL TWELVE YEARS OF AGE.

BY W. R. BATES, L.R.C.P., L.R.C.S. IREL.

IN the course of nearly twenty years' experience I have never met with a case similar to this, which emboldens me to bring it before the readers of THE LANCET. An intelligent and well-nourished girl twelve years of age, gasser in a silk spinning mill, first seen on Sunday, Oct. 28th, 1894, had not been well from the previous Thursday, complaining of headache, pains in the limbs, and general lassitude, but had worked up to the previous morning, when she had to come out of the mill. She was suffering from pain in the right side of the chest, which increased on inspiration and by pressure over the lower ribs. The respirations were hurried and shallow, with slight cough, but no expectoration. The tongue was furred and moist; the bowels acted regularly. There was no vomiting. The patient said also that her head ached very badly. The temperature in the axilla was 103·4° F., and the pulse 112. There was no dulness on percussing the chest, but on auscultation there was a friction sound heard over the right base anteriorly; the heart sounds were normal. A diaphoretic mixture of acetate of ammonia with potassium bicarbonate was ordered, with hot linseed-meal poultices, mixed with one-twelfth part of mustard, applied to the right side; the diet was to consist of milk with a little soup. Next morning the temperature had fallen to 100°, the respirations were less hurried, but there was still the quick pulse and there had been very little sleep. On the 30th the temperature was normal. The respiration was regular, but the pulse-rate still kept high (120), and she had had another sleepless night. She was taking food well and seemed to be convalescing rapidly. On the 31st her sister came for me before breakfast, asking me to see my patient at once, as she had not slept and was very excitable, saying there was a woman behind the door with something over her face continually looking at her, and that cats, dogs, and other animals were running all over the bed and biting her legs and toes. When seen she was not at all violent, but it was with difficulty she could be persuaded to lie down. She talked quite rationally, however, until questioned about the woman, when she became very excited, reiterating the statements already made to me. Her temperature was normal, but the pulse-rate was quick. A mixture of potassium bromide with vinum antimoniale was given every three hours. The room was ordered to be darkened and the child kept perfectly quiet. I was away all day, and on arriving home at night found I had been sent for several times. On entering the room I found it required the united efforts of several women to keep the girl in bed. She was violently delirious, but her chief delusion was that she was floating down the river in a tent with the water gradually filling it, and that we should all be drowned. She recognised me, however, and asked me to take her away to a safe place. With a little coaxing I persuaded her to lie down, and took her temperature in the axilla; it was still normal. A draught containing two scruples each of bromide of potassium and chloral hydrate was ordered, half to be given immediately and the other half in two hours if required. She fell asleep for a little while after the first half, and then had the second portion administered, when she slept for about eight hours. Waking up quiet and free from delirium, but still full of delusions, she slept well the following night without a sedative, and gradually regained her usual health, but it was rather more than a week before the delusions entirely disappeared. I think, on looking at her and the family history, we have a clue to the cause of the mental disturbance, following what was only a mild attack of pleurisy. In infancy and childhood I attended her, when she had several convulsive attacks during the period of dentition and from gastric disturbance, showing that she has a tendency to have her nervous system easily thrown off its balance; I also attended two of her sisters, who died from tuberculous meningitis. Her mother died from lardaceous disease following spinal caries. The girl is now in good health, mentally and bodily, has got stout, and is following her usual employment.

Addingham, Yorks.

A MODIFICATION OF PHELPS'S OPERATION FOR THE RELIEF OF TALIPES EQUINO-VARUS.

BY T. H. KELLOCK, F.R.C.S. ENG.,
MEDICAL SUPERINTENDENT, THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

THIS operation having now been performed for some years, we are able, to a very fair extent, to form an opinion as to the ultimate benefit derived from it, and many surgeons must have been somewhat disappointed at the tendency to relapse which takes place some time after the abandonment of the splints or other supports which have been used to keep the foot in the corrected position, the part of the foot in front of the wound becoming slightly adducted and the sole inverted. This appears to be particularly the case in those instances where the large open wound resulting from the operation has been allowed to granulate and close by itself; it is obviated, to a certain extent, by planting epithelial grafts taken from some other part of the body on to the raw surface at the time of, or soon after, the operation; but in cases treated in this way the resulting scar is unsightly, and there remains a deep sulcus formed by the drawing together of the sides of the wound thus covered by epithelium. It occurred to me that this might be further remedied by making use of some of the redundant skin which is always present on the outer side of the foot when this has been brought into the straight position, and by the kindness of Mr. J. H. Morgan I was able to perform the following operation on a case under his care. The patient was a healthy-looking girl six years of age, the subject of bad congenital talipes equino-varus—an essentially favourable case for the performance of this operation. Continual walking on the outer side of the foot had caused the usual thickening of the skin in that position, which had to be softened by being treated with a wet dressing a day or two before the operation, which was performed in April last. After dividing the tendo Achillis subcutaneously and completing the operation as described by Phelps, with division of the tendons of the tibialis anticus, tibialis posticus, and flexor longus digitorum muscles, the foot could be brought into a very good position; a flap of the whole thickness of the skin, about an inch wide, was then cut on the outer side of the foot by two parallel incisions reaching from the upper end of the operation wound to the sole, and dissected off the underlying structures, the skin being brought together underneath it by sutures. Five or six days later, the flap appearing to be thoroughly well nourished, the lower end was divided and, leaving the upper end still attached, was turned across and secured by one or two horsehair stitches into the deep wound on the inner side of the foot, which was by this time mostly

covered with granulation tissue, and the foot and leg fixed in plaster of Paris. The healing of both wounds was quickly accomplished and the plaster-of-Paris splint dispensed with about three months after the operation. Some time afterwards, as there was still a tendency to equinus, the tendo Achillis was again divided and the foot put into plaster-of-Paris for a fortnight. The result now—ten months after the operation—is very satisfactory, the foot being in good position, with more strength in it than one dared hope for after the division of the tendons of so many important muscles.

Great Ormond-street, W.C.

CASE OF FRACTURE OF THE BASE OF THE SKULL, WITH OUTWARD DISPLACEMENT OF BONE.

BY C. B. DALE, M.R.C.S. ENG., L.R.C.P. LOND.,
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ELEVATED fractures of the vertex of the skull are described as the result of oblique cuts. In the following case a similar condition affected the base. On Sept. 26th, 1894, a man aged fifty-one years was working on the Great Northern Railway line when an iron plate measuring 13 in. × 7½in. × ⅛ in. flew off the engine of a passing express and struck him behind the left ear. When seen a few minutes afterwards he was in a semiconscious condition, but rapidly became comatose. There was an irregular, lacerated wound about 5in. in length, extending downwards and forwards behind the left ear as far as the angle of the jaw. The skull was perforated just behind the mastoid process, and a circular piece of bone about 2in. in diameter was cut out and turned back in the posterior flap. There were some loose splinters of bone lying in the wound, but the edges of the opening in the skull were not depressed, and no fissures could be detected extending from it. The surface of the brain was lacerated. The wound was washed out with carbolic acid lotion and brought together with carbolised silk sutures, the piece of bone being replaced and kept in position by the flap to which it was attached. The patient made a good recovery. The wound healed by first intention, with the exception of the lower angle, from which a small quantity of cerebro-spinal fluid continued to escape for some days. Four days after the accident he developed left-sided facial paralysis, but this has since almost completely disappeared. He is now back at work and complains only of slight weakness of the right leg.

Hatfield.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF FLOATING KIDNEY WITH INTERMITTENT HYDRONEPHROSIS CURED BY FIXING THE KIDNEY IN THE LOIN.

(Under the care of Mr. WATSON CHEYNE.)

THIS case illustrates a condition of the kidney which is much more common than was supposed a few years ago; in fact, the relationship between movable kidney and hydronephrosis was not mentioned in our text-books and was perhaps not recognised. Probably the most interesting and important contribution to this subject (intermittent hydronephrosis) is that by Terrier and Baudouin,[1] who collected a series of eighty-three cases. They found that the most common cause of this condition is a movable kidney, which when displaced causes a kink in the ureter, the escape of urine being thus prevented until the kidney has returned to its normal position. They state that such a condition usually becomes a permanent one, because in consequence of inflammatory changes about the kidney adhesions form which hold it in its displaced position. The symptoms produced by intermittent hydronephrosis were well shown in the case which follows, whilst the treatment carried out has proved very successful. It is, of course, advisable that the operation should be performed as early as possible, so that the inflammatory changes which are only too apt to ensue and produce destruction of kidney substance, and may possibly necessitate the operation of nephrectomy, may be prevented.

A widow aged thirty-five years was admitted to King's College Hospital on Nov. 16th, 1893. Four years before admission she first began to suffer from attacks of pain in the left side. These attacks lasted from two or three days to a fortnight, and from that time she had had attacks of this kind every week or ten days. At first she noticed that the attacks occurred especially after exertion, such as lifting heavy weights, and relief was sometimes speedily obtained if she lay down on her side. Latterly, however, the attacks had occurred without exertion, and even on turning in bed. The pain was of an aching character, beginning mildly at first, gradually increasing in severity, and subsiding either gradually or sometimes pretty quickly. For the last year, coincidently with each attack of pain she had noticed the appearance of a lump in front and above the left anterior iliac spine, which was very tender and was the seat of the pain. It appeared and disappeared coincidently with the pain. Tenderness remained for some days after the attack. During these attacks she did not notice any frequency of micturition or alteration in the quantity of urine passed, nor had she noticed any increase in the quantity of urine when the tumour disappeared. She had, however, frequently noticed blood in her urine, both during and in the intervals between the attacks. She was admitted to hospital during an attack, but on her being examined two days later the pain and tumour were found to have completely disappeared. An elongated mass which seemed to be the remains of the kidney was, however, felt and was freely movable. The patient's general health was good. The urine was acid, of sp. gr. 1030, and with a considerable deposit of urates, but no albumen, sugar, or blood. As no lump was present she went to the ophthalmic wards on account of a keratitis from which she had suffered for some months. She afterwards went out for a few days and returned on Dec. 20th with a fresh attack of pain in the lumbar region. On examination a large, soft, rounded swelling about the size of two fists was felt in the left lumbar region, extending as low as the anterior iliac spine and passing up under the ribs. There was also bulging in the left lumbar region behind. There was dulness over this area, and the swelling was very tender to the touch. On considering the history and symptoms Mr. Watson Cheyne came to the conclusion that this was one of the cases which have been recently described by Mr. Clement Lucas, where hydronephrosis had followed on a movable kidney, and that the attacks of pain &c. coincided with a kinking of the ureter from an alteration in the position of the kidney. As it was evident that considerable kidney substance still remained, Mr. Watson Cheyne decided to wait till the attack passed off—that is to say, till the position of the kidney which led to kinking of the ureter had given place to a position in which the ureter was free—and then to try to fix the kidney in that position. The swelling and other symptoms had completely disappeared by Jan. 12th, 1894, and accordingly on Jan. 17th the usual oblique posterior incision was made and the kidney exposed. Considerable remains of kidney substance were found, of a horseshoe shape, and in front and below a large empty sac, the dilated pelvis. The kidney having been placed as nearly as possible in its normal position, a portion of the capsule was stripped off and stitched in with stitches which united the divided layers of muscles somewhat after the manner described by Mr. Arbuthnot Lane. There is nothing special to note about the after-progress of the case except that two of the superficial stitches found their way out through an angle of the wound left open for drainage. The patient left the hospital on Feb. 24th, not having had any further accumulation or attack of pain. She was seen quite lately, when she stated that she had remained perfectly well and free

[1] Revue de Chirurgie, Paris, 1891, vol. ii. Sajous' Annual of the Universal Medical Sciences, vol. iii., E. 28.

from attacks for months; indeed, she had only had one very slight attack a few days after leaving the hospital, which, however, subsided in a few hours and was not accompanied by any appearance of tumour. As more than a year has now elapsed since the operation she may be regarded as well.

HOSPITAL FOR WOMEN AND CHILDREN, LEEDS.

A CASE OF OSTEOMALACIA; REMARKS.[1]

(Under the care of Dr. J. B. HELLIER.)

THE disease of which the following is a good example is fortunately rare in England, and the remarks which are appended to the case by Dr. Hellier give a good summary of most of our present knowledge on the subject. Winogradsky[2] described a micro-organism which he had found in the blood of a patient suffering from osteomalacia and which he considered might be the cause of the disease; others have failed to confirm his observations, and the cause remains unproved. Petrone, who also considers that the cause may be a micro-organism, states that it may be destroyed by the use of chloroform, and Latzko succeeded in curing a patient by chloroform narcosis. Phosphorus has been used with considerable success by Steinberg, Weissmayer, Schlesinger, and others. Castration has not always proved successful. Much improvement is stated to have followed the application of weight extension to the limbs of a patient during convalescence from this disease. We are indebted to Mr. F. Horsman for the notes of this case.

The patient, a married woman thirty years of age, was admitted to the Hospital for Women and Children, Leeds, in May, 1894. She had never been very strong, but had not had any previous illness except measles. In 1883 she bore a living male child by natural labour, after which she began to complain of pain in the back, passing down into the thighs. Her second child (female) was born in 1886 by natural labour, and was suckled fifteen months. During lactation she felt much pain in the lower part of the back, which was increased by locomotion. After weaning she felt still weaker, and though she could walk two miles she began to oscillate in her gait. Her third and last confinement took place in July, 1888, when a healthy male child was born at full term by a short, easy, natural labour, so that it may be taken as certain that up to this time there was no appreciable amount of pelvic contraction. She remained in bed one month, and felt very weak and ill on getting up. She suckled ten months, but pain and difficulty in walking were now very considerable. During the last six years she gradually reached the condition which she presented on admission to hospital. During this period she had been treated for rheumatism, and had been supposed to have some disease of the cord on account of the altered gait, but the true nature of the illness did not seem to have been recognised. The patient had not known poverty or destitution, but had always been able to procure good food. The house in which the last two confinements took place may possibly have been unhealthy, for it was a farmhouse, and the cowshed was under the same roof. Her condition on admission may be summed up under three heads: (1) signs of softening and giving way of the skeleton, especially of the spine and pelvic bones; (2) pain and tenderness in connexion with the bony parts most affected; and (3) symptoms of constitutional debility and dyscrasia. 1. The patient on admission was thin, and markedly sallow and anæmic. She was weak and ill, and distressed by pain, and her muscles were somewhat wasted. 2. Her gait was peculiar. As she walked her arms, hanging vertically, fell behind the central line of the body, the shoulders being thrown back and the abdomen prominent. She moved along in a waddling-fashion, like an exaggeration of the gait of a very stout woman far advanced in pregnancy. In going up and down stairs she took one step at a time. The knee-jerk and abdominal reflexes were increased. 3. She had shortened in stature; her actual height was 59¾ in. She said that she and her sister used to be of equal height; her sister measured 62⅞ in.; hence the patient had lost about 3 in. 4. The spine was deformed; there was very marked lordosis; the last lumbar vertebræ and the upper part of the sacrum were sunken, whilst the lower end of the sacrum was unduly prominent. 5. The thorax was deformed; the upper intercostal spaces were widened, the lower being very much narrowed. The chest was sunken towards the pelvis, so that there was no space between the ribs and the iliac crest, but, on the contrary, the lowest ribs came below that level. 6. There were external signs of contracted pelvis. The symphysis pubis was distinctly rostrated, presenting a very characteristic beak, which could be grasped between the finger and the thumb. The external measurements were as follows: the distance between the iliac crests was 10⅜ in.; the distance between the two anterior superior spines was 8 in. (this measurement is usually only ¾ in. less than that between the iliac crests, so that in this case the iliac spines were rotated inwards and approximated); the external conjugate was 6¾ in. In osteomalacia beaking of the pelvis may, as here, prevent any great shortening of the external conjugate. In addition to this, there was sinking in of the great trochanters. In the normal pelvis the intertrochanteric measurement is greater than the intercristal, and this helps to produce the well-known curve from the waist to the thigh in the female figure. In the present case the body tapered off from the hips downwards and caused a singular and characteristic appearance. The following table gives these two measurements in the patient and in eight other women who happened to be in the same ward at the time. It will be seen that the average intertrochanteric distance in the eight cases is one inch more than the intercristal, and that in the osteomalacia case it is half an inch less:—

Table of Measurements of Osteomalacia Patient and Eight other Women.

Case.	Intercristal distance.	Intertrochanteric distance.
1.	11 inches.	12 inches.
2.	10¾ ,,	12 ,,
3.	11 ,,	11⅞ ,,
4.	10½ ,,	11⅛ ,,
5.	11½ ,,	12¼ ,,
6.	11 ,,	12⅛ ,,
7.	12¼ ,,	12⅝ ,,
8.	10⅝ ,,	11⅜ ,,
Average	11 inches.	12 inches.
Osteomalacia patient ...	10¾ inches.	9½ inches.

7. The vaginal examination was as follows. The pubic arch was greatly contracted. The tuberosities of the ischium were nearly together. The tip of the index finger could be just passed under the pubic arch, but not the first joint. When the finger was passed into the vagina it impinged on a round hard swelling which nearly filled the pelvis. This was the sacral promontory and the lowest lumbar vertebra. The first finger could be passed between the sacral promontory and the pubes, but the second finger could not be passed by its side. The available conjugate may be said to be not more than an inch and a quarter. The os uteri was felt below the promontory, and the fundus lay obliquely to the left. 8. There was tenderness of the pelvic bones, vaginal examination gave great pain, especially when the finger was passed between the pubic rami or when the promontory was pressed upon. Walking was painful, so was any jerk of the body, and she said that when she sneezed it hurt her all over. 9. The teeth were so carious that there was not a sound tooth left in the jaws. Menstruation was regular and there was no dysmenorrhœa. The temperature was normal. From these data a diagnosis of osteomalacia was made, and removal of the ovaries was entertained in order to prevent further conception and to give the patient the benefit of a procedure which has recently been followed by such remarkable results. However, the first indication seemed to be to give a trial to simpler measures and to watch the case for awhile. The patient was put upon Parrish's syrup and cod-liver oil. Her weight was now a little under 6 st. From this time a steady improvement began. By June 26th she had gained about five pounds, and could sit and walk better. On July 6th she was sent into the country, her weight being 6 st. 4½ lb. On Sept. 4th she attended at the hospital. She

[1] This case formed the subject of a paper read before the Leeds and West Riding Medico-Chirurgical Society, Oct. 2nd, 1894.

[2] Sajous' Annual of the Universal Medical Sciences, vol. iii., I., 17, 1894.

had lost almost all her pain, she looked better in all respects, there was a marked improvement in her walking power, and her weight was 6 st. 12 lb. On Dec. 4th the weight was 7 st. 4 lb. and she declared herself to be quite well. The pelvic condition was the same except that there was a great diminution in tenderness. Her present condition (March, 1895) is excellent.

Remarks by Dr. HELLIER.—Osteomalacia is so rarely seen in Leeds that I have ventured to put this case on record, although it is not an example of the most severe type of the affection; and as this disease, especially in its more pronounced stages, is seldom seen by English practitioners, and as the accounts given in English text-books of obstetrics are rather meagre, the following clinical sketch of the disease as seen on the Continent, abstracted from a monograph by Baumann,[3] may be of interest. The earliest symptom is pain, which begins in the ischial tuberosities and spreads to the pelvic bones and to the lumbar vertebræ; very soon the hip-joint becomes painful, the movements of the thigh difficult, and the gait slow and shuffling. In the further progress of the disease not only locomotion but also sitting become impossible. The patient is bedridden and can usually lie on the side only, not on the back, because the spine is so tender. Characteristic deformities arise according to the particular bones affected. The promontory of the sacrum sinks into the pelvis and the acetabula also sink inwards. The pubes project like a beak, and the pelvic cavity takes the shape of a heart on a playing-card. There is no one characteristic deformity in this disease, for if the patient can sit and stand the pelvis tends to become flat and the vertebral column to sink downwards and forwards. The normal curves of the spine become exaggerated. The cervical spine may be so much shortened that the chin rests on the sternum. In extreme cases the stature has become a foot less in a few weeks and the sternum has bent to nearly a right angle with apex forwards. Finally, the bones of the extremities bend or break. In consequence of these deformities the internal organs become compressed and displaced, and their functions are interfered with. Hence there may result circulatory disturbances, cardiac obstruction, bronchitis, asthmatic symptoms, digestive disturbances, diarrhœa, &c. Phthisis may come on, or general marasmus may terminate life. If pregnancy occur the pelvic deformity may prevent normal birth, may necessitate Cæsarean section, or may cause rupture of the uterus. [Sometimes the contracted pelvis is more or less dilatable in labour.[4]] The bones become bent or partly or completely broken. In the worst cases fractures and curvatures are both found. The bones which go first are the ribs and the bones of the extremities. Callus may fail, or may be so reabsorbed that imperfect union is the result. The mortality of the puerperal form is estimated at 70 per cent. (Litzman). In the non-puerperal variety of osteomalacia the mortality is 34·7 per cent. It occurs in both sexes and in rare cases in young people. Its course is severe. The starting point is almost always the vertebral column or the thorax. The pelvis may escape, but this form is specially apt to extend all over the skeleton, even in rare instances to the bones of the head. The effect of castration upon the course of this disease is one of the most interesting discoveries in obstetrics made in recent years. In 1878 Porro published his improved method of Cæsarean section, which, as is well known, involves the removal of the appendages with the amputated fundus uteri, and hence an artificial induction of the menopause. Of 44 cases of Porro's operation published up to 1889, 18 died at the time and 26 recovered from the operation; 5 of these died not long after from various causes (phthisis, Bright's disease, heart disease, &c.). In the remaining 21 a very marked improvement followed in almost every case, and the osteomalacia was practically cured. This does not mean that the deformities disappeared, but that the patients lost their pains and became able to walk and work, that there was no increase in the deformities, but, on the other hand, an improvement in general condition. Naturally the question arises whether simple castration would have the same effect. Fehling and others have tried this in 20 cases, with, it is said, much success.[5] Dr. Everke of Bochum, in Westphalia,[6] and Dr. Rasch of London[7] have also published successful cases. The old-fashioned Cæsarean section, which leaves the ovaries, does not tend to cause improvement in the disease.[8] Making every allowance for the deductions which experience may demand to be made from the success claimed at first for any new treatment, I think that anyone who reads the details of the cases published will see that while the influence which most tends to make osteomalacia worse is repeated childbirth, that which has most effect in arrest and cure is removal of the ovaries. The good results seem to follow very quickly after the operation, marked relief to the pain often beginning in a week or two, and patients who were entirely bedridden have been able in a few months to walk, to work, and even in one recorded case to *dance* (Baumann). The causation of this disease is not yet explained; when we consider the list of causes given in text-books our puzzle is increased. If damp, cold, draughty dwellings, hard manual labour, anxiety and worry, bad clothing, poor food, repeated childbirth and hyperlactation will cause it, why do we not find the disease in every large city, where women bear children in rapid succession amidst damp, cold, chill, draughts, rags, and starvation? Surely all the facts of the case, together with the consideration that the disease is notoriously endemic in certain districts and that its sporadic occurrence is very exceptional, point to the probable existence of a micro-organism as the essential factor. It may be urged that this supposition would not harmonise with the effects just described as produced by castration. But a simple explanation of these might be that the condition of the blood in pregnancy and the puerperal state favour the presence and activity of such organisms, and that after the menopause the blood has the opposite tendency. There is nothing extravagant in such a theory. The possibility of spontaneous cure must always be borne in mind, especially in the milder cases. Recoveries from osteomalacia are reported from time to time apart from surgical interference. They may be attributed to various modes of treatment, as, for instance, to phosphorus,[9] to sea baths,[10] to change of air, iron, cod-liver oil, lime salts, &c., or to the vis medicatrix naturæ; but it is plain that medical treatment should be tried before surgical. I am especially glad that this was done in the present instance. Had oöphorectomy been performed the temptation to cite the case as a convincing proof of the efficacy of the new treatment would have been irresistible, and the patient would have been exhibited cured but without her ovaries, unless, indeed, I had been unfortunate enough to have had to exhibit the ovaries without the patient. Nevertheless, if she should have a relapse and medicinal and hygienic treatment should fail, castration would then, in my opinion, be the proper course to pursue.

[3] Ueber den Einfluss der Porro-operation und Castration auf das Wesen der Osteomalacie &c. Johannes Baumann, Basel.

[4] See Barnes' Obstetric Medicine and Surgery, vol. ii., p. 570, for cases in point.

[5] Deutsche Medicinische Wochenschrift, Jan. 28th, 1892.

[6] Ibid.

[7] Zeitschrift für Geburtshülfe und Gynäkologie, Band xxv., Heft 2.

[8] Baumann, op. cit.

[9] See Latzko: Allgemeine Wiener Medicinische Zeitung, January, 1894.

[10] Pelezar: Brit. Med. Jour., Epitome, Dec. 15th, 1894.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Nervous Symptoms and Morbid Changes in the Spinal Cord in Certain Cases of Profound Anæmia.

AN ordinary meeting of this society was held on March 26th, the President, Mr. HUTCHINSON, being in the chair.

Dr. JAMES TAYLOR read a paper on Nervous Symptoms and Morbid Changes in the Spinal Cord in Certain Cases of Profound ANÆMIA. At the commencement of the paper Lichtheim's observations in 1887 were referred to as the earliest recognition of the association of nervous symptoms and spinal cord changes with pernicious anæmia. The subsequent very exhaustive examination of that observer's cases, and of others by his pupil Minnich, was next mentioned. These observations showed that in certain cases of pernicious anæmia symptoms of sclerosis in different areas of the cord were present. The actual degeneration found in the cords, chiefly marked in the posterior columns, was described, and also the conditions found in cords of patients the subjects of pernicious anæmia, but in whom during life no symptoms of cord disease were present. The subsequent confirmatory observations of van Noorden, Eisenlohr, Nonne, and Bowman were briefly

noticed. Allusion was next made to a series of cases published by Dr. Putnam of Boston of diffuse degeneration in the spinal cord in enfeebled persons past middle life, to a case observed by Sir T. Grainger Stewart, ascribed by him to the same class as Dr. Putnam's, and to a case of hyaline degeneration of the cord published by Dr. Bullock. All these cases Dr. Taylor, from a study of the clinical symptoms and of the distribution of degeneration in the cord, believed to belong to the same class as Lichtheim's cases. He next described two cases observed by himself. The first was that of a woman aged fifty admitted to hospital with symptoms of ataxy and in a condition of considerable anæmia. She gradually became weaker, developed excessive spasticity of the limbs, lost control of the sphincters, and died from exhaustion. The cord showed marked degeneration in all areas of the white matter and little or no change in the grey. The second case was that of a man aged forty-three admitted with symptoms closely simulating those of locomotor ataxy. He became gradually weaker, retinal and subcutaneous hæmorrhages were present, and he died from exhaustion. Similar extensive degeneration was found in the white matter of the cord, the cells in the grey matter being unaltered. Dr. Taylor regarded the association of extreme anæmia and spinal cord changes as no mere accidental one. The cord changes he regarded as of double origin: (1) sclerosis resulting from small hæmorrhages similar to those occurring in the retina in the same disease, and (2) sclerosis is the result of a blood state and he instanced as analogous the posterior sclerosis found by Williamson in cases of diabetes and the sclerosis present in the cord in cases of pellagra.

Dr. JOHN HARLEY desired to contribute to the discussion of the general question. Had fatal anæmia any direct connexion with spinal cord changes? In both Dr. Taylor's cases the nerve lesions preceded the anæmia, and in the second case it was only a month before death that anæmia in a marked degree showed itself; so with other recorded cases. From this it appeared that the anæmia was merely the sequel. Did pernicious anæmia induce evidence of spinal cord disease? In six cases of fatal anæmia which he had himself observed there was no symptom of spinal disorder, though sprinkled hæmorrhages were present in the retina and the serous membranes in all the cases. He therefore concluded that the association was merely accidental and not interdependent.

Dr. GOWERS thought that the society was to be congratulated on having brought prominently before the profession facts which raised questions of extreme importance. The problem underlying the questions raised in the paper was similar to that underlying the debate recently held at the society. There was to some extent a similarity of lesions in the two conditions, and also a difference which could not be less significant than the similarity. He desired to point out the salient questions underlying the facts which had been put before them by Dr. Taylor with perfect lucidity and comprehensive grasp. There was, as he had said, a resemblance to the lesions seen in cases with post-syphilitic taint, but this was not always a close resemblance, and there were associated with it changes more or less random in character—changes due to hæmorrhages and the consequences of them. The lines of degeneration found in these cases in the posterior column, or postero-median column, or in the lateral or anterior pyramidal tract resembled in strict localisation the lines of degeneration seen in tabes. In tabes there was a loss of the nutritional influence of the nerve cells of the posterior ganglion, and so also in the case of action of all poisons like syphilis, alcohol, arsenic, lead, and possibly post-diphtheritic poison, and the posterior root fibres going from the skin and muscles to the posterior ganglia would also be affected. Those fibres, he repeated, which were under the nutritional influence of the cells of the posterior ganglion were especially susceptible to most poisons, but the fibres of the pyramidal tract were susceptible to only some of these poisons. In all these instances the sclerosis was a secondary overgrowth of tissue revealed by negative staining in the specimens which had been exhibited, or they could be revealed by positive staining with carmine. That there must be a toxic agent at work must be admitted, but whether the same toxic agent was the cause of the pernicious anæmia it was not possible to say. In pernicious anæmia there was found structural change in the blood-forming organs, such as the marrow and the spleen. Could such changes occur without causing also a profound change in the chemical processes of such blood-making organs? It should be remembered in this connexion that the ferment from the diphtheria organisms had been shown to transform the proteid material of the spleen into a poison which acted upon nervous tissues, and among other effects produced symptoms much like those of pernicious anæmia, only more acute. With such a perversion of the process of formation of the blood-corpuscles he maintained there would be perversion of the chemical constitution of the albuminous substances of the blood, with the result that a toxic agent would be produced capable of acting on the nervous system in the special way characteristic of such toxic agents. In this way a sidelight was thrown on these affections—on the way in which the sufferer rose only to fall again. Whenever the toxic agent accumulated vomiting and diarrhœa occurred and with it the prostration which ultimately proved fatal.

Dr. W. HUNTER said that the facts adduced were of interest both to the neurologist and to those engaged in the study of the blood. He agreed with what had been said by Dr. Gowers that a toxic agent played a considerable part in the production of pernicious anæmia, and that the toxic agent was due to the absorption of poison of a specific nature from the intestinal tract. From the cases related it was not clear that the relation between the anæmia and the cord changes was a close one, for the cord changes appeared to be antecedent to the anæmia, and in one of the cases related the evidence that the case was really one of pernicious anæmia was not conclusive. He referred to a case of pernicious anæmia which was peculiar in two respects—its association with certain nerve changes and the occurrence of extensive and deep pigmentation of the skin. There was absence of knee-jerk with numbness and tingling of the limbs, and after a first exacerbation there occurred atrophy of the deltoids and of the extensor muscles of the thighs. The degenerative changes in the nervous system might either be due to some toxic change in the blood or to hæmorrhages occurring in the course of the disease. He favoured the view of the lesions being hæmorrhagic in origin, because in cases of pernicious anæmia these changes were few and far between, and recovery from the lesions was good.

Dr. BUZZARD wished to discuss the point whether the anæmia could be a cause of cord changes. In cases of ordinary chloro-anæmia functional troubles referable to the spinal cord were not uncommon, and disappeared when the anæmia passed away; in other words, they were temporary and functional. This bore on the point as to the possibility of cord troubles such as those Dr. Taylor had described being produced by a blood condition. He first referred to the case of a young woman who had all the symptoms of an organic paraplegia. She was suffering from pronounced chloro-anæmia, and she recovered perfectly when the anæmic symptoms were relieved by treatment. In another case a young woman had diminished knee-jerks, and was the subject of chloro-anæmia. Under Weir-Mitchell treatment the knee-jerks returned in full force. A third case occurred in a woman aged twenty-three years. She was admitted to hospital with symptoms which induced them to consider the advisability of an operation for intracranial tumour. There were intense headache, vomiting, double papillitis, and absent knee-jerk. Iodide of potassium being tried without result iron was substituted for it, and there was a very rapid improvement; the papillitis disappeared, the knee-jerks returned, and the blood corpuscles and hæmoglobin rose to their normal ratio.

Dr. MOTT mentioned a case of pernicious anæmia in which the blood corpuscles were reduced to 400,000 per cubic millimetre; the knee-jerks were increased, but there were no signs of spinal cord degeneration. At the necropsy there was found fatty degeneration of the pyramidal cells of the cerebral cortex; possibly later there would have been changes in the crossed pyramidal tracts. He asked if Dr. Taylor had examined these tracts and the ganglion cells of the posterior root. The fibres of Goll's column were the longest fibres going up the spinal cord, and therefore were the most likely to suffer if the centres of nutrition were affected; degeneration should be evident in the peripheral nerves as well.

Dr. BOWMAN said he had examined five cases of pernicious anæmia, and in none of them was affection of the nervous system noted as being present during life. He examined the spinal cords of three of these cases, but no degeneration was found to be present either in the cord itself or in the posterior nerve roots, though Minnich found changes

in the cord in five cases out of twelve in which there had been no nerve symptoms.

Dr. ORMEROD said that the paper constituted an important addition to the etiology of spinal cord diseases. Neither pernicious anæmia nor the form of spinal cord disease described was so common as to warrant the belief that the association between them was a mere chance one. The symmetry of the specimens was against the idea of their being due to hæmorrhage. He examined a case under the care of Dr. Church in which there was a lesion like that shown, but in that case no anæmia was present. A point to be remembered with regard to these cases was that there were very few cases of pernicious anæmia which were not treated with arsenic, and it had been shown that arsenic itself might produce similar lesions.

Dr. TAYLOR, in reply, said that in one recorded case the knee-jerk was at first exaggerated, then it disappeared, and then came back again. The cases were too numerous to be explained by mere coincidence. He had carefully guarded himself in his title from branding his cases as pernicious anæmia, which he thought was at present an indistinct entity. He described his cases as profound anæmia, and one at least of Dr. Putnam's cases was so called. So far the cases were an unexplained series: he had merely drawn the parallel between them, but he did not force it, though he tried to bring his cases into line with those described by Lichtheim and Minnich. The changes were much too symmetrical to be explained by the theory of hæmorrhage. He had not examined the cerebral cortex.

MEDICAL SOCIETY OF LONDON.

Tubal Pregnancy and Case simulating Tubal Pregnancy.—Extra-uterine Gestation operated on in the Tenth Month of Pregnancy.

AN ordinary meeting of this society was held on March 25th, the President, Sir WILLIAM DALBY, being in the chair.

Mr. BLAND SUTTON read a paper on a case of Tubal Pregnancy and one simulating Tubal Pregnancy. A woman thirty-five years of age, mother of two children, the youngest five years old, was suddenly seized whilst "trying on a dress" with sudden severe pain in the abdomen. Mr. Hazel was summoned and found the patient collapsed. At the end of five hours she was blanched, the voice reduced to a whisper, the pulse scarcely perceptible at the wrist, and she complained of great abdominal pain. Since the birth of her last child she had menstruated regularly till January, when her period, which was due on New Year's Eve, failed to appear. Nine days later she was seized with the severe pain which preceded the collapse. On physical examination the abdomen was slightly distended and some dulness could be made out in the left iliac fossa. The uterus was somewhat enlarged, the cervix soft, and the os patulous. As it was clear that the patient was suffering from intra-peritoneal bleeding, probably due to rupture of a gravid tube, abdominal section was performed by Mr. Sutton. On incising the peritoneum a broad stream of arterial blood leaped through the wound and a ruptured gestation sac was detected in the left Fallopian tube. The tube and ovary were removed in the usual way and the blood and clot carefully sponged from the abdomen. The patient rapidly convalesced and discharged the decidua on the fourth day. Sections were cut from the gestation sac and tube and examined microscopically; the sac contained a tubal mole 8 mm. in diameter furnished with chorionic villi. Mr. Sutton stated that this was the smallest tubal mole he had examined. The second case occurred in a patient thirty-five years of age who had been married seven months and believed herself to be three months advanced in pregnancy. She was suddenly seized with severe pain in the left side of the abdomen and metrorrhagia. On examination Dr. Marsden Low made out a swelling in the left iliac fossa, dull to percussion, and smooth and rounded in outline. The uterine fundus could not be distinguished above the pubes. The cervix was so depressed that it could be felt just within the vulva; it was soft and the os patulous; there was also an escape of offensive blood. On examining the patient it was clear that she was pregnant, but whether the fœtus occupied the uterus or the broad ligament was by no means certain; further, it seemed that the pregnancy was complicated by a tumour, either a myoma of the uterus or an ovarian tumour. It was decided to examine the case under chloroform next morning and Dr. Champneys was asked to see the patient. During the night she miscarried of a three months fœtus and it was then clear that in addition to the pregnancy there was a large solid tumour in the abdomen. Three days later the abdomen became tender, the temperature fell to 96° F., then rose to 103°, and the patient became extremely ill. Nine days later abdominal section was performed, and Mr. Sutton removed a large pedunculated myoma growing from the fundus of the uterus. The tumour was inflamed and glued to the omentum and intestines by soft, recent adhesions. Recovery was uninterrupted. It was pointed out that the two cases were contrasted because one illustrated the certainty with which rupture of a gravid tube might sometimes be diagnosed, and the other showed how closely such an accident might be simulated by uterine pregnancy complicated by a tumour. The first case demanded decison, the second needed deliberation. The second case was also interesting as an example of the successful removal of a uterine myoma during the puerperium.

Mr. BIDWELL read a paper on a case of Extra-uterine Gestation in which he had operated at the tenth month of pregnancy. The fœtus had been dead for some time, and was probably about seven and a half months old. The transverse colon and part of the ileum were adherent to the sac; the former was easily separated, but on attempting to free the ileum the muscular coat peeled off and a rent occurred in the mucous membrane. All the part which had been adherent to the sac, about five inches in length, was therefore resected and the ends united by Maunsell's method. The patient made an excellent recovery, although a slight fæcal fistula appeared on the tenth day and continued to discharge for five days; it was now soundly healed. Mr. Bidwell attributed the success of the anastomosis to the fact that he had excised all the damaged gut and had inserted his sutures into healthy tissues. He did not think that abdominal cases required isolation or special nurses, and if there was no vomiting he treated them as regarded diet in the same way as any other serious surgical case.—Mr. ALBAN DORAN asked why there was so much bleeding from a small ruptured tubal sac. Two days ago while he was operating on such a case the blood spurted out furiously, but in that instance a band passed from the vermiform appendix to the sac. The band was found in reality to spring not from the appendix itself but from its mesentery, and the bleeding came from an artery in this. He thought that tubal pregnancy was much more common now than formerly. Mr. Sutton had done much in clearing up the diagnosis of this subject by showing that the presence of the chorionic villi was an essential diagnostic point. Till recently it was taught that inflammation of the Fallopian tube led to desquamation of the epithelium and then the impregnated ovum coming down the tube would stick at that point; in this way the inflammation of the tube was made to be the primary causative factor. Dr. Webster of Edinburgh had recently adopted a different view. He held that decidual tissue occasionally developed in the tubal parenchyma, and that this might occur all along the tube. In the normal condition of things, when the ovum coming down into the uterus touched the decidual tissue it became adherent there because for some reason the uterine epithelium became lost at that point. According to Dr. Webster this abnormal decidual change in the tube led in a similar manner to the implantation within it of the arrested ovum, and thus a tubal pregnancy was brought about. By this theory, therefore, it was plain that inflammatory disease of the tube or ovum was not necessary to account for the tubal pregnancy, and the inflammation was regarded as a secondary result of the pregnancy. Observations on the condition of the abdominal ostium bore out this theory, for it was usually found that in cases of inflammation of the tubes of the ordinary kind independent of pregnancy the fimbriæ were closed, while in cases of tubal pregnancy the fimbriæ were usually patulous and the ovum might be extruded through the abdominal ostium into the peritoneal cavity, a condition which had been called tubal abortion.—Mr. HARRISON CRIPPS said that there were two common forms of rupture of the tube—(1) when the rupture occurred on the free or upper border of the tube, and the blood was extravasated into the peritoneum: and (2) when the rupture occurred on the lower border of the tube and the blood passed into the tissues of the broad ligament. In the first variety there was nothing to restrain the hæmorrhage, and the patient was liable to bleed to death; in the second variety, as the broad ligament became distended with blood the pressure arrested the further flow. The symptoms of the first variety were sudden pain and collapse; no tumour could be felt, but there was a general puffiness felt per vaginam and dulness in the flanks.

In the second variety the pain was more acute and of a bearing-down character, but the general symptoms were not so severe. A large firm tumour like a fibroid was felt per vaginam and a tumour could be felt in the iliac fossa on deep palpation. In the first variety it was necessary to operate at once; cases of the second class were best left to nature. There was yet a third variety, where on vaginal examination a tumour could be felt in Douglas's pouch, but no tumour could be discovered in either iliac fossa. In this variety the blood was effused into Douglas's pouch and shut off by adhesions from the general peritoneal cavity. He thought Mr. Bidwell made a mistake to dissect off the intestine; it would have been better to have left a portion of the sac adherent to the gut.—Dr. HERMAN thought that cases of the first variety rarely or ever occurred; it was commoner to get a series of slight hæmorrhages. This was borne out by the observation that the abdomen contained clot of different dates. Cases of this kind had been described by Mr. Taylor of Birmingham. A valuable sign of hæmorrhage into the broad ligament had been described by Mr. Tait; processes of cellular tissue went back to the sacrum on each side of the rectum, and in hæmatoma and cellulitis a ring was formed round the rectum in this tissue which could be plainly felt from the rectum.—Mr. CLUTTON maintained that a considerable number of cases of the first variety occurred, but they came under the care of the surgeon rather than of the obstetric physician. In the autumn of 1894 he saw a case which resembled one of acute strangulation of the small intestine or perforation. The patient was a woman aged forty who had had no children for ten years, but was still menstruating regularly; she had a firm uterine fibroid. The symptoms were vomiting, faintness, and prostration, with acute obstruction of gut, neither fæces nor flatus being passed. On opening the abdomen there was a rush of blood and a ruptured tubal gestation was found and removed; the patient recovered. He agreed that it was better to leave a portion of adherent sac attached to the intestine rather than to attempt to separate a firmly adherent gut.—Dr. LEWERS said that two years ago he operated for a right ruptured gestation of three months. He removed the fœtus and tube in the usual way, and the patient made a good recovery. A year later she came back with similar symptoms. There was a swelling in the left side of the pelvis, and another in the mid-line. Changes in the breast indicated pregnancy. The day before operation she passed a blighted ovum of the size of a hen's egg. This made no difference to the size of the tumour on the left side of the pelvis, which was found to be a small ovarian tumour, and was successfully removed.—Mr. SUTTON, in reply, said that he was glad to find that surgeons were beginning to take an interest in these cases. He did not think that tubal pregnancy was relatively more common than formerly, but it was certainly more frequently recognised. He referred to two cases in illustration of this. In one case a woman ate a hearty meal of mussels; she was afterwards taken suddenly ill, and was thought to be suffering from poisoning. She died and a necropsy being made on a coroner's order a ruptured tubal pregnancy was found. In another case a woman in Paris was eating an ice at a restaurant when she was suddenly taken ill and died. At the necropsy it was found that she had a ruptured tubal gestation. Cases of the first group usually died unrelieved, while those of the second group went to hospitals and were diagnosed as instances of pelvic hæmatocele. Cases of the third group had been known for a long time; there first occurred a moderate hæmorrhage from a tubal abortion, then inflammation followed by successive hæmorrhages; these were the intra-peritoneal hæmatoceles of the obstetric physicians.—Mr. BIDWELL, in reply, said he only attempted the separation of the gut with his finger, but found it to be more fragile than he thought.

CLINICAL SOCIETY OF LONDON.

Nephrectomy for Renal Adenoma.—Cases illustrating Local Treatment by Oxygen.—Syringomyelia with Perforating Ulcer.—Pseudo bulbar Paralysis.—Facio-humeral Type of Myopathy.—Fracture Dislocation of the Spine.—New Form of Aspirating Instrument.—Successful Trephining for Syphilitic Cranial Necrosis.—Meningocele.—A Case of Mycosis Fungoides.

A MEETING for the exhibition of clinical cases was held on March 22nd, Mr. LANGTON, Acting President, being in the chair.

Mr. MALCOLM showed a child aged four and a quarter years on whom Nephrectomy was performed for Adenoma two years and four months ago. The interest of the case lay in the long survival of the child after operation. He had removed the right kidney and a tumour which had been regarded as a malignant adenoma, the mass being of oval shape and measuring six inches by four inches. This was done on Nov. 15th, 1892, the child being then under two years of age. When he recorded the case in January, 1894,[1] he thought that only one other child had survived nephrectomy for neoplasm more than a year, in which case death from recurrence had taken place after eighteen months. But, in debate, Mr. Sutton had directed attention to two cases operated on by Dr. Abbe of New York,[2] in which the children, aged respectively two years and fourteen months at the dates of the operations, had survived. Mr. Malcolm was able, from a private communication, to say that both Dr. Abbe's patients were recently alive and well. One of them would have lived after operation three years on April 12th, 1895, and one was operated on five days after the case he now showed. The patient exhibited was quite well and freely secreted urine of good specific gravity and free from albumen. In answer to Mr. Howard Marsh, Mr. Malcolm said that the tumour in his case had consisted almost entirely of tubules lined by columnar epithelium and elongated processes of epithelial cells which did not show any lumen. As such tumours usually contained also cells resembling striped muscle cells, and as these were absent in this case, he had thought that the peculiar structure of the tumour might account for the good result. This view was negatived by the fact that in one of Dr. Abbe's cases similar tubules were associated with sarcomatous tissue, while the others consisted of striped muscle cells, round and spindle-shaped cells. If the result was not due to some peculiarity in the nature of the tumour the only other suggestion he could make as to the cause of the prolonged immunity was that he had removed the growth very freely, including the capsule and a mass of enlarged glands.

Mr. G. STOKER showed three cases to illustrate Local Treatment by Oxygen Gas. The first case was that of a woman aged fifty-six years, who had for several years been suffering from an intractable ulcer of the leg involving almost its entire circumference. She had been under treatment as an in- and an out-patient for years without any benefit. The limb was immersed in an atmosphere consisting of equal parts of air and oxygen gas. The treatment at once entirely relieved the pain from which she had been suffering; the gas caused a pricking sensation when first turned on, but this disappeared in the course of half an hour. The pus was found to be speedily freed from organisms and the new skin formed was not cicatricial. The second case was that of a man who suffered from extensive and intractable ulceration of the hand, following a poisoned wound of the finger. The rapidity of the healing under a similar atmosphere was remarkable; the nails grew so quickly that they had to be cut every day, and there was an exuberant growth of hair on the back of the hand. By the seventh day the wound was completely aseptic. The third case was that of a girl who had lost nearly all her hair from alopecia areata. The head had been shaved previously, and no hair grew after that till the treatment was commenced. He fitted her with a rubber cap, and into this pure oxygen was pumped. At the end of six weeks she was getting quite a good head of hair.

Mr. MORGAN and Dr. MOTT showed a case of Syringomyelia with Perforating Ulcer. The patient was a man aged twenty-four years who was well until sixteen years of age. Then after a chill he developed perforating ulcer of the left foot, for which the leg was subsequently amputated. Eighteen months ago another ulcer formed on the right foot. The foot was in the position of talipes equino-varus, with pes cavus. There had been no crises.—Dr. MOTT added that there was wasting of muscles of the hand and arms, and the muscles did not react to even the strongest faradaic current, although they did to galvanism. Below the knee there was no sensation of any kind, but in other parts of the body there was dissociation of sensation which was characteristic of syringomyelia. The disturbance of sensation along with the wasting of muscles and the existence of perforating ulcers established the diagnosis.

Dr. MOTT showed a case of Pseudo-bulbar Paralysis in a man aged fifty-three years. Twenty years ago he had suffered from fits accompanied by left hemiplegia and some

[1] Clinical Society Transactions, vol. xxvii.
[2] Annals of Surgery, Philadelphia, January, 1894.

right paresis. Four years ago it was noticed that the arms and legs were still weak. The knee-jerks were increased, and wrist contraction was marked. There was much difficulty in swallowing, and saliva ran out at the angles of the mouth. On examining the larynx it was noticed that the two sides of the epiglottis fell together. Articulation was very imperfect, and on one occasion he had been fined in mistake for being drunk. The symptoms were possibly due to sclerosis of the pyramidal tracts, which at their decussation might interfere with the glosso-labio-laryngeal nucleus.—Dr. JAMES TAYLOR said that some time since he had seen a somewhat similar case, which Dr. Hughlings Jackson, from the history and clinical appearances, thought was one of pseudo-glosso-labio-laryngeal paralysis—that is to say, a case of double cerebral lesions simulating disease of the bulb, although other physicians who saw it took it to be an ordinary case of glosso-labio-laryngeal paralysis. The cerebral hæmorrhage which ultimately determined the death of the patient rendered it impossible to ascertain what the condition was in the brain, but there was descending degeneration of equal extent on both sides, and the cells of the hypoglossal nucleus were normal. The case shown was similar and the history pointed in the same direction. This patient's voice was very peculiar. He only remembered to have heard that intonation in one other case exhibited by Dr. Ormerod.

Dr. BEEVOR showed a case of the Facio-humeral Type of Myopathy. The patient was a man aged twenty-seven years, who began to feel weak in his legs when fifteen. At twenty he waddled when walking, and at twenty-two he could not walk without help. There was considerable wasting of the muscles of the face, arms, and trunk, and some lateral curvature of the spine with pronounced lordosis. The extreme lordosis was due to weakness of the glutei and rectus abdominis muscles.

Mr. BALLANCE next brought forward a case of Fracture Dislocation of the Spine which had been operated on. The patient was a man aged forty-eight years who fell from a train in rapid motion in November, 1893. He was unable to get up after the accident and he developed cystitis with incontinence of urine and fæces. When admitted to hospital he was quite unable to stand or sit owing to loss of power in the lower limbs. Below the knees the muscles were quite paralysed and wasted, and the gluteal muscles were also wasted. Tactile anæsthesia was nowhere absolute, but there were well-defined areas of dissociation of sensation to heat, pain, and cold. The knee-jerks were diminished. The twelfth dorsal vertebra projected very markedly. On Jan. 12th, 1894, seven weeks after the injury, Mr. Ballance made a seven-inch incision with its centre immediately over the projecting vertebra, and removed the laminæ and spinous processes of the tenth, eleventh, and twelfth dorsal and the first two lumbar vertebræ. He did not open the theca, but that sheath was adherent to the lamina of the first lumbar vertebra. Two months later the patient had regained perfect movement of the hips and knees, sensation was much improved, and the sphincters were under control. The patient was actually in the condition of a man who had undergone double amputation of the legs below the knees, and he observed that it was quite open to question whether or not he would be better off without the two wasted pegs which were all that remained of the limbs below that level. He could only walk with crutches. He recalled a case in which a patient, who was a footman, had both his feet removed under similar circumstances.

Dr. GARRETT, introduced by Sir Dyce Duckworth, showed an ingenious piece of apparatus by which drainage, aspiration, and exploration could be performed with the same instrument.

Dr. J. B. PARKINSON showed a case of Local Anæsthesia in one Hand. The patient was a young woman aged nineteen years, who suffered from occasional attacks of enlargement and discolouration of one hand, lasting from some hours to several days, specially provoked by cold. The hand became cold and lost sensation. The nerves on the ulnar side appeared to be less sensitive, and pressure on that ulnar nerve did not give rise to any sensation in the hand, as on the other side. She had suffered from amenorrhœa of five months' duration.

Mr. H. W. PAGE exhibited a case of Syphilitic Cranial Necrosis in which there were frequent fits and trephining was followed by recovery. The patient was a man aged forty-one years, who was admitted into his wards suffering from fits which had gradually become more and more frequent; indeed, he was almost unconscious, being roused only with difficulty. He seemed to be gradually losing ground. There was a history of syphilis and long continued pain in the head. No optic neuritis was present. The symptoms appeared to point to widespread pressure on the brain rather than any definite cerebral tumour. He trephined over the Rolandic area and at once came across some inflammatory material between the scalp and the bone. Having removed the piece of bone he found much broken-down gummatous matter between the bone and the dura mater, of which he removed as much as he could. As the dura mater itself appeared healthy he did not open it. Since then the patient had been free from fits and had had no return of the pain. In 1890 he had a very similar case, in which spontaneous relief was afforded to the pressure by erosion of the bone, but the patient died after a time from pyæmia.

Mr. H. B. ROBINSON exhibited a case of Meningocele. The patient was a child aged seven months, who had first come under his care in December last with a swelling on the right side of the head over the posterior part of the parietal bone. The child was the firstborn of a healthy looking mother, and was born after some difficulty. The presentation was cranial and instruments were used. The head appeared to be bruised all over, but most of this swelling soon went away, within the month, leaving the tumour now presented. The mother said that the swelling seemed then about the same size as it was on the first visit to the hospital, about four and a quarter inches by four and a quarter inches (Dec. 4th), and from the time she first noticed it she thought that it "throbbed." On examination the swelling was round and soft with the skin quite free over it. It was placed over or a little anteriorly to the right lateral fontanelle. On deep pressure there could be made out some deficiency in the skull, the edge being very irregular and everted, especially anteriorly; the deficiency seemed to be chiefly in the posterior part of the parietal bone. The skull as a whole was asymmetrical. There were very marked impulse and increased tension on coughing or straining. On pressure when the swelling was lax no definite external pulsation could be made out. Pressure on the swelling did not affect the child at all. There was no history of fits. The tumour had not been tapped. The diagnosis of traumatic meningocele was entertained because of its situation, which was a very rare position for the congenital forms, and from the history of the difficult labour and use of forceps. Such a cause for the traumatic form seemed not previously to have been described.—Mr. MORGAN thought that there was absence of the lateral half of the occipital bone; but whether this was due to the instrumental labour or to want of development he could not say. If it had been an encephalocele it would have increased in size more markedly.—Mr. A. PEARCE GOULD regarded the case as traumatic in origin; he thought he felt a raised rim of bone round the edge and depressed bone within this.—Mr. MARSH suggested that it might possibly be a hæmatocele.—Mr. ROBINSON said that he proposed to tap it shortly with a view to clear up the diagnosis. The extreme tension on coughing and straining was against hæmatocele.

Dr. DE HAVILLAND HALL showed a case of Mycosis Fungoides. The patient was a man aged fifty-two years, who first complained of pains in the arms and legs, to relieve which he rubbed in acetic acid. Between two and three years ago the skin where he had applied the acid began to be affected, especially on the outer side of each arm. The rash spread to the thighs, and in September, 1893, a big swelling the size of a goose's egg appeared on the right hip, and next one on the right elbow. The tumours lasted from six to nine months, some of them breaking down and discharging, others disappearing without going on to that stage. In June, 1894, tumours made their appearance on the feet, head, and face. Since October he had complained of sore-throat, and tumours of the same nature could be seen in the pharynx and on the arytænoid cartilages.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Selection of Cardiac Tonics.—Treatment of Psoriasis by Thyroid Extract.—Aneurysm of the Descending Thoracic Aorta in a Female.

A MEETING of this society was held on March 14th, the President, Dr. J. G. GLOVER, being in the chair.

Dr. ARCHIBALD CHRISTIE read a paper on the Selection

of Cardiac Tonics. He first criticised the methods of employment of this class of drugs. Usually the practitioner prescribed one favourite member of the group, generally digitalis, to the exclusion of the others. In this way the peculiar properties of the drugs were not considered, and it could not be expected that their full benefit would be obtained. The importance of bearing in mind the different factors occurring in any individual case of heart disease—viz., the weakening of the myocardium, the disorder of the cardiac innervation, the condition of the arteries—was strongly emphasised as being essential in choosing the tonic best adapted to the case. The action of digitalis was then illustrated by means of numerous sphygmographic tracings taken during the course of treatment. The disadvantages of digitalis were much insisted on, and especially in cases when for various reasons it was inadvisable to cause a rise of blood pressure, digitalis was the worse cardiac tonic to employ. Strophanthus was the most useful cardiac tonic for general use. Illustrations were given of its use, and the rapidity of its action was brought prominently into notice. Twenty minims of the tincture of strophanthus by mouth produced a distinct effect on the pulse tracing of healthy individuals in fifteen minutes. The actions of convallaria, caffeine, and strychnine were also described and compared. This paper was illustrated throughout by lantern slides of sphygmograms obtained from patients during the course of treatment.

Mr. CHARLES KING described the case of a woman aged fifty years who had for twenty years or more suffered from general Psoriasis in a most aggravated form. There had been practically little relief to symptoms during these years, on many occasions the skin becoming dry, hot, and inflamed, impeding voluntary movements almost completely. After the use of all the usual remedies, in November last she was treated with thyroid extract. At first there was considerable constitutional reaction, but in a short time the psoriasis disappeared, and now the patient is practically well. Mr. King remarked on the value of the use of thyroid extract in chronic scaly skin diseases.

Dr. BURNET and Mr. MACREADY showed the specimen and drawings and gave an account of a case of Aneurysm of the Thoracic Aorta. The patient was a woman thirty-one years of age, who had given evidence of symptoms of serious disease of the thoracic viscera, but none sufficiently definite to allow of accurate diagnosis. She came under observation on account of difficulty in swallowing food and consequent emaciation and weakness. Occasionally this difficulty disappeared, but only to recur. Gastrostomy had to be performed on account of the increasing dysphagia, but the operation came too late, and she died exhausted two days later. After death an aneurysm of the aorta was found in the posterior mediastinum. The œsophagus was compressed between the heart and the aneurysm, and a narrow vertical opening communicated between the heart and the aneurysm, which was blocked by firm coagula in the recent state. The œsophagus at the point of greatest pressure was in a sloughing condition, and was in communication also with an abscess cavity. They remarked on the comparative rarity of aneurysm of the thoracic aorta below the arch, and especially in females. In 167 cases of aneurysm of the thoracic aorta collected by Crisp this combination did not occur once, in 24 cases of aneurysm of the descending portion collected by Dr. Burnet and Mr. Macready it occurred only twice in females.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Epithelioma of the Œsophagus with Perforation into the Trachea.—Exhibition of Specimens.

A MEETING of this society was held on March 13th, Professor SHERIDAN DELÉPINE being in the chair.

Dr. LEECH and Dr. GROSVENOR mentioned a case of Epithelioma of the Œsophagus with Perforation into the Trachea. The patient was fifty-five years of age. Three years ago there commenced symptoms of discomfort in the throat and an alteration of the voice. Two years ago he had occasional attacks of choking and difficulty of swallowing, which increased for six months, when it was suddenly relieved. A month afterwards the patient was seized with violent paroxysms of coughing, and he could not swallow even a drop of water, death occurring in six days. Post mortem an epithelioma was found which was situated in the middle of the œsophagus, encircling the tube, and two inches in length; there was a large perforation into the trachea.—Dr. LEECH and Dr. WILD mentioned a case of ulceration of the œsophagus perforating the aorta and right lung during the course of typhoid fever.

Dr. PERCY ASHWORTH showed specimens of Tuberculous Salpingitis and Peritonitis from a woman aged fifty-seven whose family history was good, but who had married a tuberculous husband, by whom she had five children—the first two healthy and the others tuberculous. When seen seven months before death the patient was greatly emaciated, and the abdomen was filled with fluid. After tapping, a hard mass was found in the pelvis. She was tapped twenty-one times in all; at the thirteenth tapping a hard nodule was discovered in the abdominal wall at the seat of puncture. Post mortem this nodule was found to be a piece of tuberculous omentum adherent to the abdominal wall; the intestines were studded with tubercle, and the pelvis contained a large mass, from the midst of which the two thickened Fallopian tubes, filled with thin pus, could be isolated. There was no doubt that in this case the tuberculous mischief commenced in the Fallopian tubes, and the interesting point was whether the infection had thus been communicated by the tuberculous husband.

Dr. WILLIAMSON showed a Microscopical Specimen of the Phrenic Nerve which presented well-marked parenchymatous neuritis. The specimen was taken from a case of alcoholic paralysis which was under the care of Dr. Steell. During life there had been the usual signs of alcoholic neuritis and finally paralysis of the diaphragm. The anterior tibial nerves also showed marked parenchymatous neuritis. The spinal cord, macroscopically and microscopically, was normal in the cervical, dorsal, and lumbar regions.

Dr. ROBINSON showed a Congenital Malformation in the Heart of a Sheep, and card specimens were shown by Dr. KELYNACK, Dr. MILLIGAN, and Mr. WOLSTENHOLME.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases and Specimens.—Some Points in Invalid Dietetics.

THE eighth ordinary meeting of this society was held on March 20th, the President, Mr. J. F. CHAVASSE, being in the chair.

Dr. LESLIE PHILLIPS presented a man aged thirty. Four years ago a squarish bald patch came on the occipital scalp, upon which hair has never since grown and which is now hidebound. Two years later a round patch appeared at the vertex, apparently of alopecia areata. The hair has grown here, but a curious ring of baldness exists around it on which pale-coloured hair is now growing. A similar horse-shoe-shaped patch exists at the occiput, and a band over the right ear. This latter gives the impression of partial adhesion to sublying tissue, and pressure here caused pain at the nape. In the right cheek is a vertical band of apparent sclerodermic infiltration. The disease was apparently circumscribed scleroderma simulating alopecia areata, and if this view of the case was correct the regrowth of hair on one patch was notable. The alternative, but less probable, diagnosis given was that morphœa and alopecia areata coexisted.

Dr. SHORT showed a man with Violinist's Palsy. The patient, aged twenty-six years, was a jeweller by trade, using his hands for fine work during the day, and for several years he had practised the violin in the evening. He first noticed a sense of numbness between the ring and little fingers of the left hand, followed by weakness of the arm and hand, so that he had to rest his elbow on his knee when playing. The marked features of the case were the absence of spasm or cramps, and the rapid wasting of the thenar, interosseous, and lumbrical muscles. He had been under treatment by massage and electricity for about two months, with marked improvement in the muscular power of the hand.

Mr. JOHN W. TAYLOR showed a Uterus, the seat of Malignant Disease, which he had recently removed by Doyer's operation of vaginal hysterectomy. In this operation the broad ligament is secured by two pressure forceps with elastic blades, and a considerable portion of the ligament may be removed on each side of the uterus without danger of injury to the ureters.

Mr. WOOD WHITE showed a middle-aged woman with a large Fungating Epithelioma of the Left Eyelid. The growth had invaded the outer half of both upper and lower eyelids and extended on to the cheek and temporal region.

There were no enlarged glands to be felt. It had been growing for six years.

Dr. DOUGLAS STANLEY showed Cultures in various stages of the Löffler Diphtheria Bacillus.

Mr. HENRY showed a number of specimens illustrative of Injuries and Diseases of the Eye.

Dr. T. NELSON read a paper on Some Points in Invalid Dietetics, in which he reviewed the possibilities of the kitchen in providing a more varied diet for those suffering from fevers, gastric and liver disorders, and other affections. He gave examples of dietaries with methods of preparation of various food stuffs, and concluded by urging some form of instruction in the principles of cookery for medical students as a necessary accompaniment of success in practice.—The President, Drs. Short, Stanley, Purslow, Johnstone, Kirby, and others took part in the discussion.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A CLINICAL MEETING of this society was held on March 19th, Dr. S. JOHNSTON, President, being in the chair.

Mr. HORROCKS showed: 1. A case of Lupus of the Tongue. 2. An Epithelioma of the Temple where, after freely excising the growth, skin grafting by Thiersch's method was successfully employed. 3. A case in which the Astragalus was excised for Tuberculous Disease. A transverse incision was made and gauze packing employed for two days, the stitches then being tightened. A good result followed. 4. A case of Epithelioma of the Penis in which Thiersch's amputation was performed.

Mr. CHAPMAN showed (for Dr. MAJOR): 1. A case of Functional Paralysis simulating Sclerosis. 2. A boy aged twelve years with symptoms of Cerebellar Tumour. Twelve months ago there were headache, vomiting, and double optic neuritis; afterwards the sight failed, and now the patient is blind (optic atrophy). 3. A case of Aortic Aneurysm.

Dr. KERR showed: A man with "Habit Spasm" of sixteen years' duration. 2. A girl who had Tetany following a fall on the ice, with injury to forearm.

Dr. A. BRONNER showed cases of—(1) Retinitis Pigmentosa, illustrating the early and late stages of the disease; (2) a patient on whom he had performed Stacker's Operation for Disease of the Attic.

Dr. H. BRONNER showed a patient with an obscure Brain Lesion, the symptoms being indistinctness of speech, general mental failure, and implication of the third, fifth, and twelfth cranial nerves on the left side. The probable seat of the lesion was discussed.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Varicocele, Nævus, and Varicose Veins of the Leg.—New Operation for the Cure of Rotation Inwards of the Entire Limb.

A MEETING of this Section was held on March 15th, Mr. W. THORNLEY STOKER, President, being in the chair.

Mr. CHARLES BALL read a paper on the Arrest of Bleeding by Sutures, with special reference to the operations for Varicocele, Nævus, and Varicose Veins of the Leg. In varicocele the mass of spermatic veins is separated from the vas deferens. Clamp forceps are applied above and below, and the entire mass excised *en bloc*; the cut surfaces are now brought together by a very fine continuous suture passed all round the cut extremities and the ends firmly knitted together, the forceps are removed, and if any bleeding takes place additional sutures are put in. No ligatures whatever are used; reliance must be placed altogether on the sutures to stop bleeding, as in the operation for harelip. By this method the spermatic circulation is occluded altogether, the vitality of the testes being provided for by the deferential arteries and veins. Union between cut extremities of the veins effectually braces up the testicle. In a period of five years this operation had been performed nine times with complete cure by primary union, no case of recurrence being met with. In nævus a number of needles are passed under the growth, each of which is threaded with boiled silk. An elastic ligature passed round under the needles temporarily arrests bleeding. The nævus is excised down to the needles; the elastic ligature is now removed, the needles pulled through, and the silk sutures firmly knotted; in this case also bleeding is controlled by the sutures, if sufficient are put in, and union takes place rapidly. In varicose veins of the leg an incision is made over the portion to be removed, two pairs of catch forceps are applied to the vein, which is divided between them and dissected up to each angle of the incision. Boiled silk sutures are now passed under the entire length of the wound, and the one at each angle is closed, completely controlling the vein, which is cut away close to the sutures; a fine continuous suture is applied to the margin of the wound and the remaining deep sutures closed; here again no ligatures of any kind are applied to the veins.—The PRESIDENT thought that papers dealing with practical matters of detail of this sort were of more interest than the capital subjects of surgery. With regard to the question of the avoidance of ligatures he agreed with Mr. Ball. Quite recently he had written a paper, published in the *Dublin Journal of Medical Science*, on operations on veins. He thought that sutures were better avoided in superficial operations which have to do with veins. Mr. Ball's passage of a ligature under the varicose vein is practically a soft ligature by acupressure. He agreed with nearly all Mr. Ball said on operations for varicocele. In that case pressure applied by a pad low down over the loose scrotum is not suitable. His own practice is to excise from half to one inch of the pampiniform plexus, pass a sterilised catgut ligature round the stump, and ligature the cut ends. He only tied the ligature round the stump tight enough to stop hæmorrhage. The part did not then necrose, and no slough was left.—Mr. BENNETT bore testimony to the success of the cases mentioned by Mr. Ball. What he thought of most importance was his method of dealing with nævi.—Mr. S. M. THOMPSON highly approved of deep sutures.—Mr. KENDAL FRANKS had never tried Mr. Ball's method, but hoped he would have an opportunity of trying it shortly. It was a new method. He did not think there was so much novelty in other matters mentioned in his paper.—Mr. W. THOMSON thought Mr. Ball's treatment of nævus was the most important practical suggestion. It seemed to him that the ligature had been put upon its trial. Mr. Ball had abandoned the term "ligature" for suture, but he maintained that Mr. Ball was only ligaturing the veins in another way.—Mr. TAYLOR had seen a good many of the cases operated on by Mr. Ball. In the operation for varicocele the catching of the veins by the forceps flattened them out, and so there was a good broad line of union on suturing. The shortening of the cord was important.—Mr. BALL, replying, said that the President had used the terms "necrosis" and "slough" as being practically synonymous terms. He did not agree with this. A necrotic part becomes a slough when it becomes septic.

Mr. SWAN read a paper on a New Operation for the Cure of Rotation Inwards of the Entire Limb after aggravated Equino-varus, with an attempt to explain the anatomy and etiology of the distortion. Mr. Swan showed that the factors of foot inversion commence below the knee. The tibia is in its normal position, but the lower extremity of the fibula is deflected forwards, and is considerably in front of the position which it should normally occupy. This anterior position of the fibula is normally found in the quadrumana, where the foot is used for grasping and is ill suited for walking. Mr. Swan proposes to remedy this condition in man by a careful transverse division of the tibia alone at the junction of its middle and lower thirds. The fibula must be left intact. The lower fragment is rotated outwards and the foot thus brought into a straight position. Mr. Swan has adopted this method in many cases with perfect satisfaction.—The PRESIDENT, commenting on Mr. Swan's paper, thought that his theory of a descent back into lower forms of animal life was very interesting and quite in conformity with the explanation of many deformities.

CITY OF LONDON AND EAST LONDON DISPENSARY.—The annual meeting of this charity was held at the offices, Wilson-street, Finsbury, E.C., on March 22nd, Mr. F. Sharrett presiding. The report showed that the patients' attendance during last year exceeded 42,000. The contributions of subscribing members were £1007, and the awards of the Hospital Sunday and Saturday Funds were respectively £19 and £21. The institution is in a satisfactory financial position, being free from debt and having £1400 invested in Consols. The approaching retirement of Mr. Bluett, the secretary, was regretfully announced, his popularity and ability being heartily acknowledged.

Reviews and Notices of Books.

On the Geographical Distribution of Tropical Diseases in Africa. By R. W. FELKIN, M.D. Marburg, F.R.S.E. Edinburgh: William F. Clay. 1895.

THIS work was originally contributed by the author to the African Ethnological Congress which assembled at Chicago in 1893, while the Appendix, treating of a new method of illustrating graphically the distribution of disease in any area, is the reprint of a paper read before the Congress of Hygiene and Demography at Budapest last autumn. The author, who has a large personal knowledge of Africa, believes in the possibility of its colonisation by Europeans. Thus he says: "Can Europeans become acclimatised in Tropical Africa? My strong opinion is that it can only be possible if migration occurs step by step; and in estimating the possibilities of acclimatisation we must count by generations rather than by years. I believe, however, that our increased knowledge of climatology and hygiene renders the problem of acclimatisation more easy of solution than it was, and, given picked individuals and the careful selection of tropical areas in which to colonise, I see no reason why, with precautions, inhabitants of the temperate zone should not colonise even Central Africa. In the selection of emigrants great care should undoubtedly be taken, and all persons with a tendency to gout or rheumatism, diabetes or albuminuria, those of a nervous or alcoholic family history, or those suffering from either acquired or hereditary syphilis, should certainly be restrained from emigrating to tropical Africa." With regard to the unhealthiness of West Africa the author writes: "Although the West African Coast is called 'the white man's grave,' yet it is undoubtedly true that to a certain extent it is not malaria which causes—or perhaps one should say has caused—the very high death-rate of even 50 per cent. amongst the whites on the coast. In the past, at any rate, this death-rate has been due to the fact of diseased individuals proceeding to Africa, to want of knowledge of the precautions necessary for a residence there, and, unfortunately, in many cases to the wilful ignoring of prophylactic measures and of a well-ordered life." The author speaks very highly of the climate of the Orange Free State, and regards it as an excellent sanatorium for sufferers from pulmonary tuberculosis. Dr. Felkin's map of the distribution of disease is likely to be very useful. The number of different symbols is great, and it requires very close scrutiny to distinguish among them (thus the symbols for scarlet fever and rheumatism, and for syphilis and ophthalmia, seem almost identical), but the information afforded is most valuable.

St. Thomas's Hospital Reports. New Series. 1892-93. Edited by T. D. ACLAND, M.D., and BERNARD PITTS, F.R.C.S. Vol. XXII. London: J. & A. Churchill.

WE learn from the editors' preface that the publication of the present volume has been delayed in order that the statistical reports for 1892 and 1893 and the Calendar for 1894 and 1895 might be included in it. Attention is directed by the editors to the new arrangement of the names of those who have held appointments or who have gained prizes or distinctions in the hospital, and to the local and alphabetical lists of students of the hospital which appear at the end of the volume. About 150 pages at the end are taken up with the Hospital Calendars and purely school matters, of little interest to members of the profession not connected with the hospital. The contents are divided into two parts as usual: contributions from members of the staff and others and statistical reports. In the former are included two papers In Memoriam—W. B. Hadden, M.D. Lond., F.R.C.P., and George Rainey, his Life, Work, and Character, by Mr. W. W. Wagstaffe (this has been recently specially noted in the columns of THE LANCET). Mr. H. H. Clutton contributes a paper on the Treatment of Hallux Valgus, also a case of Separation of the Lower Epiphysis of the Femur, Amputation, Pyæmia, Gangrene, Death. Mr. W. H. Battle records cases of Traumatic Separation of the Upper Epiphysis of the Femur in Early Life and a case of Acute Bone Inflammation in which a large quantity of Medullary Oil was found in the resulting Subperiosteal Abscesses. Dr. Sharkey writes on Acute Bronchiectasis; Dr. W. H. Tate on Pregnancy in a Unicervical Bicornuate Uterus; Mr. Edmund White, pharmaceutist to the hospital, on Sterilised Dressings and Sterilised Water; Mr. C. S. Wallace on a case of Gangrene of the Foot, with Sugar in the Urine, successfully treated by Amputation; and Dr. Cullingworth on the Removal of the Uterine Appendages for Uterine Myoma, with an account of Twenty Cases. In the second part are the statistical reports—Medical, for 1892, by Dr. Hector Mackenzie; for 1893, by Dr. Charles R. Box; Surgical, for 1892 and 1893, by Mr. F. C. Abbott. Midwifery Department: Dr. R. Cory. In-patient Department for Diseases of Women: Dr. Tate. The Ophthalmic Department: 1892, Mr. J. Fisher and Mr. E. P. Isaacs; 1893, Mr. J. F. Rudall. Out-patient Department for Diseases of the Skin: 1892, Mr. W. B. Winston; 1893, Mr. J. W. Hewitt. Department for Diseases of the Throat: 1892-93, Mr. W. P. Purvis. Aural Department: 1891-92, Mr. R. Lake. We are much pleased with the arrangement of these statistical reports, and know of none which are calculated to give greater satisfaction to those members of the medical profession who are anxious to obtain information of value. They are evidently compiled with great care, and must have involved much labour. The result is highly creditable, more especially to those responsible for the reports of the medical and surgical departments. The reports of future years would, perhaps, be improved if, instead of printing long abstracts of cases which have been brought before the societies or published in the medical journals, reference were made to the places where they have already appeared; such reports are read not only by the men of the hospital to which the profession is indebted for them, but by many of those who are in earnest pursuit of professional knowledge. They are also most useful for reference.

On the Natural Immunity against Cholera and the Prevention of this and other Allied Diseases by Simple Physiological Means. By C. GODFREY GÜMPEL. London: Williams and Norgate. 1894.

THIS is a learned and at the same time curious pamphlet. It is learned in that its author shows that he is well acquainted with the literature of the subject and with all the latest researches that have been made in regard to it, and curious in that it sets forth an extremely simple view and remedy. Briefly stated, the author's view amounts to this. The *rôle* of the disease is in the blood, the real cause of death is attributable to the destruction of the blood corpuscles, which swell by the absorption of water, assume a globular form, and burst, allowing the hæmoglobin and potash salts to diffuse in the blood serum; whilst in the globular form the corpuscles have lost their capability of absorbing oxygen and their power of resisting the cholera poison. The presence of sodium chloride in the blood serum tends to counteract this endosmotic property of the corpuscles to absorb water. Ninety per cent. of a population in times of cholera epidemics escape the disease—in other words, are immune to it—and the author concentrates his attention on this and seeks to explain it. Susceptibility to cholera is, he argues, indicative of a deficiency of sodium chloride in the system, and conversely the presence of the amount of common salt in the blood that the

system needs the probable cause of immunity from cholera. It follows, if this hypothesis be correct, that the best way of conferring such immunity from cholera, the best prophylactic, is to supply the system with the required amount—a few grains dissolved in cold water and taken every morning before food. We do not at all desire to prejudice the reader by thus curtly expressing the aim and object of this pamphlet. We are persuaded that the author has convinced himself of the truth of the view he advocates, and about which he has written this little treatise, which, apart altogether from the practical point he seeks to prove, is worth reading on account of the nature and variety of the information which it contains. The German edition of this little treatise, its author tells us, was originally written in 1893, and was published in Munich last autumn on the recommendation of Professor Max von Pettenkofer. The literary part of the pamphlet and that which deals with destructive criticism are interesting; it is the constructive part that seems to us weak. To examine and criticise it would take up more space than we can give. Those who care to do so can read it through in a couple of hours, and if they ever have the opportunity and desire to try the prophylactic virtues of the small dose of sodium-chloride recommended they can, at any rate, easily do so without any injury to themselves or anybody else.

Transactions of the Eighth International Ophthalmological Congress held in Edinburgh, August, 1894. Edited by GEORGE A. BERRY, F.R.C.S. Edin., with the assistance of H. PARENT, M.D., of Paris, C. HESS, M.D., of Leipzig, and A. F. FERGUS, M.D., of Glasgow. Edinburgh: Messrs. T. and A. Constable. 1894.

THIS goodly volume, which has been published with commendable speed and accuracy by the editors, contains the papers read before the Congress that met in Edinburgh last year under the genial presidency of Dr. Argyll Robertson, by whom the numerous visitors were warmly welcomed. It contains several interesting papers. Dr. Little of Manchester gives, for example, the results he has obtained from his operations for Cataract for the last five years, during which period he has extracted 423 senile cataracts; 322 of them were performed with and 106 without iridectomy, and it is interesting to find that in the hands of a master the difference in the degree of success is comparatively trifling. In the discussion which followed, Dr. Swanzy and Mr. Critchett expressed themselves in favour of the combined operation, whilst Dr. Noyes, Dr. Knapp, and Mr. Pridgin Teale preferred the simple operation. Professor Leber discussed the proper treatment to be adopted in cases of Perforating Injuries of the Eye by Morsels of Copper, and advocated their early removal by operation. Professor Panas considered the Oculo-motor Paralysis caused by lateral pressure of the cranium, and showed that the greater number of such paralyses were due to fracture of the base of the skull. Dr. Mules describes a new operation for Ptosis, and in a second paper his method of dealing with Ulcers of the Cornea by means of a specially prepared gelatine wafer. Mr. Marcus Gunn contributes an article on the Changes in the Macula associated with Retinal Inflammation and Œdema. A paper that led to some interesting discussion was by Dr. Benson of Dublin on Recurrent Temporary Visual Obscurations, with the ophthalmoscopic appearances observed during the obscurations, which are probably of vaso-motor origin. Mr. Juler supplies a contribution to the Anatomy and Physiology of the Iris, in which he describes a dilator muscle of the iris. The Mechanism of Accommodation is the subject of a paper by M. Tscherning. Dr. Bull draws attention to the effects of Lid Pressure on the Cornea. Histological papers on the Structure of the Ganglion Cells of the Retina and the disposition of Schlemm's Canal are given by Dr. Bach and Dr. Gutman. The treatment of strabismus by advancement instead of tenotomy is ably advocated by Dr. Landolt in a paper on Strabotomy. Dr. Darier of Paris contributes a paper on the Best Methods of applying Mercury in Ocular Therapeutics and discusses the relative value of inunction, hypodermic injection, intra-ocular injection, and subconjunctival injection. It would appear that, whilst in many cases these methods of treatment are very efficacious, in others severe irritant symptoms are apt to be set up which may prove troublesome, and rather larger experience than we at present possess is required before they can be recommended with confidence.

We cannot pretend to give a full list of the sixty or more papers that are contained in this volume, but many of the articles deserve careful study by every ophthalmic surgeon. The Congress appears to have been a highly successful one, and it was agreed that the next Congress should be held at Utrecht, the date being at present not definitely settled.

Essays on Rural Hygiene. By GEORGE VIVIAN POORE, M.D., F.R.C.P. Lond. Second Edition, with Thirteen Illustrations. London: Longmans, Green and Co. 1894.

WE are not at all surprised at the appearance within eighteen months of a second edition of this work, for it contains a large amount of interesting and instructive matter based upon the results of reflection and experience on the part of a bold and original thinker. The author has added a large amount of new material to the present edition of his "Essays on Rural Hygiene," and omitted some which had previously appeared. What he has to say is well worth reading, and as the book has the merit of being vigorously and pleasantly written the reader's interest is stimulated and sustained. Sanitary defects, difficulties, and shortcomings are tersely described, and the way in which the author would have them dealt with is set forth in a clear and practical manner. The chapters on concentration of population in cities, "the living earth," practical details, and personal experiences are written in a fresh and excellent way. But our readers should peruse the volume and judge of its merits for themselves.

Analytical Records
FROM
THE LANCET LABORATORY.

(1) LIQUOR CINCHONÆ HYDROBROM (FLETCHER).
(2) CINCHONA WINE (FLETCHER).
(FLETCHER, FLETCHER, & CO., HOLLOWAY, N.)

MESSRS. FLETCHER have recently added an important new member to their well-known list of syrups of the hydrobromates, of the value of which we have before expressed a favourable opinion. In the new preparation (liquor cinchonæ hydrobrom.) hydrobromic acid is employed as the solvent of the active principles of cinchona bark, so that it contains amongst other less well-defined constituents the whole of the alkaloids of cinchona, together with the kinic, kinovic, and cincho-tannic acids, which contribute important aromatic and tonic properties not possessed by the chemically separated alkaloids themselves. The hydrobromic extract is a dark reddish-brown, syrupy liquid, acid in reaction, and turning nearly solid on the addition of alkalies, the mass yielding an abundance of alkaloid when the proper solvents are used. Bromine was recognised, but with some difficulty, owing doubtless to the complexity of the preparation. The extract remains perfectly clear, even when largely diluted with water, and is not unpleasant to the taste. It is sufficiently stable to allow of combination with a well-chosen wine, samples of which we have also

examined. On analysis the Cinchona Wine gave the following results: alcohol, by weight 13·38 per cent., by volume 16·52 per cent., equal to proof spirit 28·95 per cent.; extractives, 17·80 per cent.; mineral matter, 2·45 per cent., consisting largely of the potash salts of the bark. Its composition indicates the employment of a good class of port wine for this purpose, each wineglassful being equal to ten minims of the hydrobromic extract, or the equivalent of ten grains of selected cinchona bark. It is an agreeable tonic and invigorant. Not the least interesting and important feature of the extract is that it is perfectly compatible with iron compounds, more particularly with the bromide, no precipitate or even a blackening in colour being produced, as in the case of ordinary alcoholic extracts. This combination of cinchona with hydrobromic acid is designed to obviate the distressing symptoms which, as is well known, frequently follow the exhibition of quinine or its allies—an advantage which, we learn clinical experience has proved it to possess. Liquor cinchonæ hydrobrom. (Fletcher) is calculated to remove a drawback, therefore, which has debarred many from deriving the antiperiodic, antipyretic, and tonic properties for which cinchona bark is chiefly valued.

ALPHA GUAIACOL (SYNTHETIC CRYSTALLISED).

(A. CHAMPIGNY & CO., PARIS. LONDON: WILCOX AND CO., 239, OXFORD-STREET, W.)

Most chemical works of reference describe guaiacol—the methyl derivative belonging to the group of diatomic phenols, of which catechol and resorcinol are members—as a strongly refractive liquid. It is prepared synthetically in the form of well-defined crystals, which melt at the temperature of the hand, the liquid boiling a few degrees above 200° C. It crystallises at 28° C., although a lower temperature is necessary for recrystallisation. On dropping, however, a crystal into the liquid at 15·0° C. the entire mass soon solidifies, the temperature rising to nearly 30° C. An aqueous solution of these crystals, we find, gives a mahogany colour with iron perchloride, and an emerald green changing to olive with concentrated sulphuric acid. Guaiacol is a powerful antiseptic and disinfectant, and has been used as an inhalation in phthisis. On applying it to the skin it is said to exert powerful antipyretic effects in febrile disorders, more especially in tuberculosis. Its use in dental treatment is also well known. Since, however, it has been obtained in a pure crystalline form guaiacol, or alpha-guaiacol, as the above makers prefer to distinguish it, will probably find a wider field of usefulness in the treatment of disease, especially as hitherto its uncertainty of composition, as represented in creasote, afforded no guarantee of uniform and constant results. For internal administration it is used in capsules.

LIQUORICE EXTRACT (SOLAZZI).

(STREET BROTHERS, 5, SERLE-STREET, LINCOLN'S-INN, W.C.)

The dried extract of liquorice root, generally sold in sticks, has frequently been the subject of very considerable adulteration, the adulterant commonly found being entirely inert medicinally, and being in most cases some form of starch. The above brand has long been known to be of standard purity. We found the specimen to be completely soluble in water and entirely free from impurities of any kind. It is, therefore, well adapted for the pharmaceutical purpose for which it is so useful, while as a popular demulcent it is both safe and reliable.

HUMANISED MILK.

(THE AYLESBURY DAIRY COMPANY, LIMITED, 31, ST. PETERSBURGH-PLACE, BAYSWATER.)

Samples of this milk were kept in the Laboratory for several weeks before being opened, at the expiration of which time the contents were found to be perfectly sweet and in good condition. The bottles are closed by a metal cover fixed upon a rubber band by atmospheric pressure, the space within being exhausted of air. On piercing the lid with a sharp-pointed instrument air rushes in, and the cover may then be easily removed. The following analysis shows how well adapted this preparation is for infant feeding: total solids, 11·42 per cent.; fat, 3·70 per cent.; mineral matter, 0·47 per cent. Its composition is evidently based upon well-ascertained physiological requirements. The milk is sterilised and we could trace no preservatives, two points which accentuate its value and excellence as an infant food.

New Inventions.

THE GLOBE NEBULIZER.

MANY of the various forms of spray-producing or "atomising" apparatus resemble each other in projecting a more or less forcible stream of medicated spray carried by a current of air or steam. The instrument under notice acts on a somewhat different principle, the forcible jet of spray being produced within a globular vessel furnished with a caoutchouc tube through which the patient breathes quietly, inhaling an atmosphere charged with a vaporous cloud or mist derived from the solution employed. Only a small quantity (less than half an ounce) of the medicated solution is put into the bottle and is sprayed by a current of air supplied by an ordinary valved caoutchouc ball worked by hand. The spray being driven against the inside of the bottle is further com-

minuted and is quickly felt in the naso-pharynx of a person breathing through the tube. Alcoholic solutions of oleo-resins are, from their physical properties, well adapted for use in this apparatus. One of the formulæ recommended for cases of bronchial and catarrhal affections consists of menthol crystals, oil of "Scotch pine," of eucalyptus, and of cassia, dissolved in tincture of benzoin. Other formulæ have "fluid petrolatum" as the solvent, and to others glycerine is added. Several of the stock solutions contain iodine, carbolic acid, cocaine, quinine, antipyrin, &c. A nickel-plated inhaling mask is supplied for ordinary use, as well as vulcanite tubes applicable to the nostrils and the ear. When the breathing-tube is detached and the hand-ball vigorously worked, the "nebulized" vapour issues from the short outlet tubes like a faint cloud of pale smoke. The designer is Dr. H. M. Dunlap, an American physician, and the London agents are Messrs. Oppenheimer, Son, and Co., Limited, 14, Worship-street, E.C.

NEW SAFETY BOTTLE.

MR. PADMORE, 84, Regent-street, Leicester, has brought out a novel and very simple contrivance for guarding against mistakes in the handling of bottles which contain poisons. The neck of the bottle below the lip is cylindrical for a length of about an inch, as is the case with very many ordinary bottles, and this part is encircled by a loose collar of tinplate, to which a swinging cap covering the cork is attached by means of a wire. Previously to removing the cork this cap must be turned aside out of the way, and a further means of attracting the attention of the careless is provided by the fact that the tilting of the bottle in pouring out the contents causes the cap and loose collar to fall in the way of the issuing fluid, so that they have to be turned round and held up between the finger and thumb before a glass or cup can be filled. The attachment does not in any way interfere with the replenishing of the bottle, and by its use it would seem that the most inattentive, even in semi-darkness, could hardly confuse ordinary draughts or mixtures with liniments or medicines of exceptional strength.

THE LANCET.

LONDON: SATURDAY, MARCH 30, 1895.

ON Thursday next, April 4th, the Council of the Royal College of Surgeons of England will proceed to the election of a President in the place of the late Mr. JOHN WHITAKER HULKE, whose death while worthily holding the reins of office was a subject of recent regret to the profession which he dignified with his character and ornamented with his learning. For what qualifications should we look in Mr. HULKE'S successor? He should have been a member of the Council for some years, so that he may have become fully acquainted with the working of the body over the deliberations of which he will have to preside. He should, if possible, still be engaged in active hospital work, so that as an administrator, a teacher, and a practical surgeon alike he may remain in touch with the hospital of the day, the student of the day, and the surgery of the hour. He should have also been a member of the Court of Examiners for a reasonable time so that the work which is, at any rate at a superficial glance, the most essential work of the College—the examination of candidates—may be familiar to him; and it is well that he should be a ready and eloquent speaker. It is also desirable that he should reside in London, for the almost daily attendance at the Royal College of Surgeons, which is needed for numerous small but important matters, would be a very arduous task to a member of the Council continuing to live in the provinces. There are four members of the Council who suggest themselves to us as proper candidates for the office of President, inasmuch as each fulfils most of the conditions we have indicated above. These gentlemen are, taking them in the order of seniority of election to the Council, Mr. THOMAS SMITH, Mr. CHRISTOPHER HEATH, Sir WILLIAM MACCORMAC, and Mr. REGINALD HARRISON.

Mr. THOMAS SMITH, the senior surgeon to St. Bartholomew's Hospital, was first elected a member of the Council of the College in 1880, and was re-elected in 1892; and in 1887 was Vice-President. Mr. CHRISTOPHER HEATH, the senior surgeon to University College Hospital, joined the Council in the year 1881, was elected a member of the Court of Examiners in 1883, and was Vice-President both in 1888 and in 1892. Sir WILLIAM MACCORMAC was elected to the Council in 1883, and re-elected in 1891. He has twice held the office of Vice-President—in 1890 and 1893. He became a member of the Court of Examiners in 1887, and, being re-elected in 1891, still continues a member of the Board. Though no longer on the active surgical staff of St. Thomas's Hospital, the interval is so short since he resigned his post that the resignation cannot be considered any serious objection to his claims. Mr. REGINALD HARRISON became a member of the Council in 1886, and was re-elected last year; for the present year he is one of the Vice-Presidents. Mr. HARRISON holds no appointment at a general hospital in London, but he has made an excellent reputation as surgeon and examiner in the provinces. Any of these members of the Council would fill the post satisfactorily, but Mr. THOMAS SMITH has, it is said, no intention of becoming a candidate for the position, and if this be so it seems to us that the choice of the Council will probably fall either on Mr. HEATH or Sir WILLIAM MACCORMAC. Both have been members of the Council many years, both have acted as examiners and have held the office of Vice-President, and both occupy prominent places in the estimate of their profession as scientific surgeons.

The position of President of the Royal College of Surgeons of England is one of great and growing importance, for the President is not merely the titular head of a Royal College, but the official representative of surgery in England. There was a time, as is known to all our readers, when it was customary for the Council of the College to elect to the Presidency, as a matter of course, the senior member of their body who had not already held the office. This custom was broken through a few years ago, and the old method has happily never been reverted to, for it could not but detract from the honour and credit of the office for its possessor to hold it merely through a routine method of election; but the election still rests with the Council, and, unlike the sister college, the Fellows have no direct voice in the choice of their own President. Our views on this and cognate points in the administration of the College have been and are constantly before our readers, and this does not seem to us a particularly apt time for their recapitulation. We have also purposely refrained from dilating on the views held by the gentlemen whose names we have mentioned on college politics, because we feel certain from indications whose significance can have escaped but few that there will no longer be any bigoted resistance on the part of those in power to the just reforms which have so long been demanded and must eventually be conceded both to the Fellows and to the Members.

THAT the nosological position of so common and familiar a disease as acute rheumatism should even now be undetermined may seem strange, but is not inexplicable. For in the case of rheumatism there has been no such clinching demonstration of primary blood change made as in the memorable discovery in gout of uric acid in the blood, and its deposit in articular and fibrous tissues by Sir A. GARROD—a discovery which once and for all determined the nature of that malady. The fact that in rheumatism, as in gout, the most obvious changes are arthritic has long tended to a confusion based upon theories on diathesis which we are fast leaving behind. Rheumatic fever must be regarded as a disease *sui generis*, and the sooner it is detached from other joint diseases that go under the "rheumatic" name the clearer will be our conceptions of its nature. The imperfections of a nomenclature which is based on partial knowledge not only tend to perpetuate erroneous ideas of morbid affinities, but must be taken into account as knowledge widens. The old terms—sanctioned by long usage—cannot be dissociated from the conditions they connote, but they must be given new meanings, even if this involve an entire severance from their old-established relationships. This appears to be eminently the case with the term "rheumatism," that embraces

many conditions now known to be of widely differing pathogeny. Regarding solely the leading instance of the group of so-called rheumatic affections — namely, acute rheumatism—it is instructive to observe how many and varied have been the views advanced to explain its origin. The name implies an affinity to catarrhal states, of which the existing cause is held to be a "chill"; the *modus operandi* of this chill being explained in various ways—e.g., a suppression of cutaneous functions, a disturbance of nervous mechanism, or a perversion of muscular metabolism. That the stress of the resulting inflammatory reaction falls upon articular structures is accounted by some as evidence of an underlying arthritic diathesis, by others as proof of disturbance in the central nervous apparatus controlling the nutrition of joints, and by others to the special predilection of excess of lactic acid in the blood to excite arthritis. There is no gainsaying the fact that theories such as these have each more or less plausible support in what is known of the etiology and intimate pathology of the disease, and some—e.g., the lactic acid theory—have been put to the test of experiment. Yet when a broader view of the subject is taken, and an attempt is made to harmonise these explanations with all the known facts concerning rheumatic fever, it is seen how one or other hypothesis fails to account for all its phenomena. Even the common exciting cause of chill is sometimes lacking; whilst, as is well known, arthritis in some cases, especially in the young, may form but a fleeting part of the disorder or be practically absent. Hence the endeavour to ally acute rheumatism more with the great group of zymotic or infective diseases, which implies that whatever may be the internal changes that characterise it these alone do not form its whole pathology, but that the initial factor is the introduction from without of a specific agent. It was to the exposition of this view of the nature of acute rheumatism that the Milroy Lectures, lately delivered by Dr. NEWSHOLME before the Royal College of Physicians of London were devoted; and, although the doctrine itself is not original (it was held formerly by Dr. FARR, as the lecturer stated, and has been advanced by many recent writers), it has not hitherto been supported in so exhaustive and complete a manner, for Dr. NEWSHOLME recognised clearly that in order if possible to justify the claim to range rheumatic fever among zymotics it must be proved to have affinities with the commonly accepted attributes of the whole class, and be not simply characterised by certain isolated features, either etiological or clinical, which may point to the probability of this alliance. The thesis which he ably sustained was to the effect that "rheumatic fever is a specific febrile disease caused by introduction from without and multiplication in the system of a pathogenic microbe, endemic in Europe and America and other parts of the world, but at varying intervals excessively prevalent, epidemic, or even pandemic." It would be impossible to pursue the whole of his instructive and weighty demonstration of the truth of this proposition, but we must be content to treat of what seem to be the three main lines of argument which he advanced—viz., those based (1) on epidemiology; (2) on environment; and (3) on clinical and pathological observation.

The argument from epidemiology which Dr. NEWSHOLME placed in the forefront, and to which he devoted much consideration, opened up practically new ground. He had collated statistics upon the prevalence of the disease from all sources, and marshalled them in a manner which few could emulate. The diagrams which he constructed from these statistical facts were most telling in their uniformity. For whether—as he was perforce compelled to do—he utilised only the death returns in various countries, or dealt with hospital statistics of the cases of rheumatic fever admitted, or with the notification returns of Scandinavia, the main result was to show that in certain years there was very marked rise in prevalence as compared with other years—so marked, indeed, as to justify the application of the term epidemic to them, on the same ground as it is applied to the years of excessive prevalence of zymotic diseases in general. Due allowance was made for obvious sources of fallacy, such, for example, as the varying fatality of the disease, where death returns only were available, and the assumption that cases treated in hospital are at all proportionate to the prevalence of the disease in the places concerned; and it is quite likely, as Dr. NEWSHOLME suggests, that a smaller proportion of such cases now find their way into hospital wards than formerly. The concordance in the results of such an inquiry is all the more striking in face of these and other difficulties; and we are glad that the annual reports issued from our hospitals should have been utilised in this manner. There are many moot points in the statistics of disease which could be determined by a similar analysis of hospital reports; and if it were possible to have greater uniformity in the plan of compilation of the returns of various hospitals their value for this purpose would be enhanced. As regards the question before us, it may be urged that the excessive prevalence of a disease does not prove that it occurs in epidemic form, but that it may depend on variations in seasonal or other conditions. To this it would be equally right to assert, as we take it Dr. NEWSHOLME practically does, that marked excess in prevalence is what is meant by "epidemic," which may or may not have such determining conditions behind it.

To pass to the argument from environment it would be absurd to maintain that a disease can have no specific character because of its prevalence being apparently related to conditions of soil, climate, or weather, although the independence of a disease of of such conditions may go far towards suggesting its specific or zymotic character. Thus, no one doubts the specificity of tuberculosis, but the prevalence of phthisis has been clearly shown to be influenced by soil conditions; malarial diseases are bound up with the states of air and soil of infected districts, and no one doubts their specific nature; it has been proved that the weather conditions favouring bronchitis are not precisely those which are associated with the prevalence of pneumonia, and yet the evidence in favour of the specificity of the latter is on other grounds practically convincing. The seasonal prevalence of rheumatism may not then be taken as proof of its non-zymotic character, provided other and stronger evidence in favour of the alteration be forthcoming. Dr. NEWSHOLME'S researches have shown that there is a very definite relationship between deficient rainfall, low ground water, and high soil temperature on the one hand and the prevalence of rheumatic fever on the other. This result is unexpected, but it is supported

by facts which cannot be gainsaid, and he has applied it to the explanation of the nature of the disease that he adopts.

In considering the argument from pathology and therapeutics, it must be admitted that no theory of rheumatism is so well able to account for its clinical phenomena as the one which refers it to an infective agency. Considerations based upon changes in blood or nervous system fail to embrace its multifarious manifestations. The type of the pyrexia—the articular and, above all, the cardiac inflammation—are best explained on the microbic doctrine. Indeed, so far as bacteriological investigations go—and their results are by no means so uniform or conclusive as to set the whole matter at rest—the occurrence of endocarditis would seem almost to necessitate some such agency. But Dr. NEWSHOLME takes us farther. He dwells on the fact of the relationship between tonsillitis and acute rheumatism, as suggesting that it is through the tonsil that the rheumatic microbe enters the system; but we confess that here he has probably exceeded his warrant. For, frequent as tonsillitis or mild sore-throat may be in conjunction with the onset of an attack, it is not so pronounced a feature as to be deemed a necessary and essential part of it. Nevertheless, we may admit that the liability to relapse, as well as to second and later attacks, although not concordant with many proved infective disorders, does not suffice to remove acute rheumatism from this category; whilst the factor of heredity can, we do not doubt, be found—to a much more limited extent, it is true—in many other diseases of admittedly specific origin. The marked anti-rheumatic action of the salicylates has been explained on chemical grounds by Dr. LATHAM, but was claimed long since by Dr. MACLAGAN, as it is now by Dr. NEWSHOLME, in proof of the microbic view.

On the whole, it is impossible to peruse these admirable lectures without being largely impressed with the force of the arguments and evidence which they contain, and whatever the precise position of the disease may be amongst the zymotics—whether it is more allied to the miasmatic than to the contagious class, or whether its microbe is bacterial or protozoal—that it is more reasonably placed here than elsewhere in the nosological list seems to be well-nigh proved. When this is quite assured it will be time to reconsider the position of the other forms of disease known as "rheumatic," but which have no real relationship to the malady hitherto taken as their prototype.

SLEEP is a greater mystery than insomnia. We hear much of the latter state in these days. But it is more wonderful that we sleep so well than that we are occasionally wakeful. We hear more of sleeplessness than our forefathers did. It is a remarkable fact that in scarcely any of the older recognised text-books of Practice of Physic is there any formal notice of insomnia *per se*. In later works, and especially in those devoted to *treatment*, the subject of insomnia does receive considerable attention. And every now and again the sleeplessness of a great man in the world of science or in that of politics reminds us that eminence has its troubles, and of a sort which seldom affect the poor man. It is probable that this evil of wakefulness is more common than it used to be. The excitements, and especially the worries, of life multiply. Many of the arrangements of society are of a nature to drive away sleep. Even the very pleasures of life are so taken by many as to rob them of one of the greatest pleasures of all—an eight hours' sound sleep; for we maintain that this is what everybody should aim at. It may seem a long time to spend a third of one's life in sleep. But if the other two-thirds are used well there is little cause for blame. No rule for all can be laid down; but it would be well for most people in the intensive days in which we live to devote eight hours to the cultivation of the mood and act of sleep, and to resist the domination of all habits and fashions that are inconsistent with this purpose.

Insomnia is not necessarily to be treated as a disease by itself. It may sometimes even be corrected without the aid of the medical man, by a little common sense and prudence on the part of the patient. The great danger of acting without medical advice is that mere drugs are apt to be regarded as the remedy, and the most obvious causes are apt to be overlooked. There cannot be a greater mistake than for a sleepless person ignorant of medicine and more ignorant of disease to take one after another the advertised and vaunted medicines which are supposed to procure sleep. The last state of that man is likely to be worse than the first. If there is one thing on which therapeutists are agreed it is that such medicines constitute but a small part of the treatment of insomnia, and require extreme care in selection and in use. Some eminent men in our profession have carried this objection to great lengths. They were satisfied that the cure of sleeplessness lay in other directions and that a little sleep procured without such means was better than twice the amount produced chemically. Some of these medicines are practically useless; others are actually dangerous in themselves and in their immediate effects. All of them are liable to the objection that their action is attended with a certain fascination which is apt to engender a liking for frequent repetition of the dose. Clearly the use of such agents should be controlled severely by medical prescription. If the abuse of them goes on as it is going at present the Poisons Act should be extended so as to include this whole class of drugs.

Insomnia is really a mere symptom and will no more be treated *per se* by the intelligent practitioner than the eruption of an infectious fever or the diarrhœa of typhoid fever. The great duty of the medical man is to trace it to its causes and its associations, and to deal with these. If it follows influenza it must be regarded like all the other *sequelæ* of that protean disease with some patience, but with much conviction that it will yield, sooner or later, to sound treatment. A very important point is to ascertain whether the insomnia is attended with pyrexia or otherwise, for of all means for producing restlessness and marring the night's repose an increase of two or three degrees in the temperature is among the most effective. Apart from general pyrexia, it is well to note all local peculiarities of heat, whether in the direction of excess or defect—cold feet, a hot head, &c.—and to deal with them accordingly. It is, of course, equally important to ascertain any error of function that can reasonably be associated

with such a symptom. Such errors may frequently be found in the gastric or renal or hepatic functions, and their removal will quickly alter the whole complexion of the patient's life by night and day.

No treatment of a sleepless patient can be satisfactory which has not strict reference to the particular patient, to his constitution, his habits, his idiosyncrasies, and his pursuits. No details bearing on diet or surroundings must be overlooked. The physician will not needlessly interfere with any legitimate pursuits or even habits; but, on the other hand, he will be firm in suggesting reasonable changes dictated by a medical survey of the patient's condition. While interference with a patient's necessary business or pursuits is objectionable as tending to aggravate his complaint there should be no hesitation in laying down rules with regard to diet, stimulants and general environment. We may be asked, Is there to be no place for hypnotics and narcotics in such cases? Our answer is simple. They are not excluded; but they should be used only as a secondary and subordinate means after the failure of other means, and they should be used only under medical sanction. We will not attempt to dictate to the profession which drug is most safe or least objectionable. That is a part of the daily study of every medical man. But we are persuaded that the use of "sleeping draughts" will be reduced to a minimum by those practitioners who best realise the normal conditions of healthy sleep and the advantage of so using their influence over their patients as to bring them well within reach of the attainment of those conditions.

Annotations.

"Ne quid nimis."

THE NATION'S CONSUMPTION OF ALCOHOL TEA, AND TOBACCO FOR THIRTY-TWO YEARS.

A RECORD of the consumption from 1861 up to the present time of tea, coffee, cocoa, and chicory, of alcoholic beverages, and of tobacco, compared with the increase of population, should be of interest to all classes: to the social reformer, because he may be able to form some estimate of the moral progress of the community based on the figures dealing with the consumption of intoxicating drinks; to the economist, because he may find interesting information on the revenue accruing from duties; to the hygienist, because he may make some valuable deductions bearing upon the relation to health of the increased or decreased consumption of alcoholic and non-alcoholic drinks and of tobacco; and lastly to the intelligent public, because, to some extent, the return is a gauge, so to speak, of the moral, social, and financial condition of the people as a nation, as well as of its prosperity. The most striking feature in the purely diagrammatical return, which has been recently issued and which has been ordered by the House of Commons to be printed, is that while an enormous increase in the consumption of tea, coffee, &c. has taken place—the line illustrating this extending as a diagonal across the diagram till it reaches the top right-hand corner (1893)—there has been a steady diminution in the consumption of both beer and spirits, the lines indicating the last two being practically parallels not only with one another, but approximately with the base of the diagram also. Between 1861 and 1862 the total consumption of tea &c. was 120,000,000 lb.; it then steadily rose until in 1893 it stood at 265,000,000 lb. In the same period the population increased from 28,500,000 to 38,500,000, so that while in 1861 the consumption of tea &c. per head was 4·38 lb., in 1893 it was 6·90 lb. In regard to wines and spirits, the consumption in 1861 was equal to 35,000,000 gallons, with the population at 28,500,000, and in 1893, with the population at 38,500,000 the consumption was 52,000,000 gallons, so that per head it was equal to 1·22 gallons in 1861 and in 1893 to 1·35 gallons, the highest record being 1·80 gallons in 1876, since which the consumption has steadily diminished. The consumption of beer exhibits a similar rise and fall. Thus in 1861 the amount consumed per head was 24·3 gallons, in 1874 34 gallons, and in 1893 29·6 gallons, the total consumption varying from 20,000,000 gallons in 1861 to 31,000,000 gallons in 1876 and 32,000,000 gallons in 1893, the population having increased by 10,000,000. Coming to tobacco, in 1861, when the duty was 3*s.* $1\frac{1}{16}$*d.* lb., the total consumption was 34,000,000 lb., being equal to the use per head of 19¼ oz.; in 1863 the duty on cigars was reduced from 9*s.* $5\frac{1}{16}$*d.* to 5*s.* per lb., and the consumption then rose to 21½ oz. in 1865 to 23¾ oz. in 1877. In the following year (1878) an increase of 4*d.* per lb. on all tobacco was made, and an extra 2*d.* per lb. on cigars in 1879, with the result that after that date the consumption fell to 22½ oz. From this time it gradually recovered till in 1887, when, the duty on tobacco being reduced 4*d.* per lb. and on cigars 6*d.* per lb., the consumption quickly rose till it attained to 26 oz. per head of population in 1893. The total consumption in 1893 was 62,000,000 lb, while in 1861 it was 34,000,000 lb.—i.e., an increase of 28,000,000 lb. for an increase in the population of 10,000,000. To sum up, this interesting return shows that there is a decided diminution in the demand for intoxicating stimulants, whilst there is a very considerable increase in the demand for non-intoxicating stimulants, principally tea and coffee. There would appear therefore to be a distinct and steady reaction setting in against general alcoholic imbibition—a fact which lends support to the view that the evil of intemperate drinking, as its wretched consequences become more and more painfully manifest, will finally work out its own remedy. It is beginning to be recognised—if we interpret the return correctly—that the effect of alcohol is comparable to the flick of the whip, which for a brief period urges on the horse, while the rational use of tea and the allied beverages, of which theine is the base, is more like the corn out of which a more real and lasting energy is derived. It is idle to argue, however, that both sources of energy and stimulation have not their use as well as their abuse. Finally, the enormous increase in the amount of tobacco consumed is noteworthy, and would seem to indicate a growing demand for a substance which, when temperately indulged in, doubtless affords a source of comfort and relief to many in the increasing struggles and worries of modern existence.

CHITRAL.

CHITRAL is now in everybody's mouth, so that Captain Younghusband's paper, read on Monday last before the Royal Geographical Society, on that province, Hunza, and the Hindu Kush was a remarkably apposite contribution and was listened to with the deepest attention by a large audience. Captain Younghusband has only recently returned from official residence of more than two years in the primitive little States where the empires of India, Russia, and China touch, and he spoke of the country and its physical resources, and of the people, with their curious, savage, childish, pleasant temperaments, with the picturesque clearness that is born of intimate knowledge. To us as medical men no less than as subjects of the Empress of India the recent *émeute* at Chitral has a particular interest, for the British Agent, now immured in the

Chitral fort, is Surgeon-Major Robertson, a member of our profession, and it is with a view of rescuing him from the attack of a usurping border chief that an expedition is to be sent up. No one who heard Captain Younghusband's address can fail to see that an expedition into such a country must be attended with the greatest risk to life. The roads are only tracks at the bottom of frightful mountain gorges or indications of a path—for no real paths exist—running sheer up the sides of pure rock. The mountains stand up twenty-five thousand feet into the air, and so abruptly that it is possible to see at a glance two-thirds of their enormous altitude. It follows from this geographical formation that any expedition sent through these passes must be easily susceptible of attack, as throughout their route their position would be always commanded by an enemy placed on higher ground. The military tactics of the mountains is to get and keep the higher ground, and the marching force would necessarily be almost always on the lower. Lord Roberts, in his excellent speech upon Captain Younghusband's paper, laid stress upon the strategical importance of Chitral and of a direct road from Peshawar to Chitral in the scheme of frontier defence, and expressed confidence that the well-organised and well-equipped force which Sir Robert Low will have under his command should reach its destination in safety. No one in the world is more qualified to express an opinion on such a subject than Lord Roberts, and his outspoken remarks are very reassuring. Let us hope also that the expedition will reach Chitral in time.

THE HIPPOCRATIC REVIVAL.

MEDICAL scholarship has been busy of late in clearing up the early progress of the healing art. Not only have we had such interesting monographs as those of Dr. Constantin Tsintsiropoulos on "La Médecine Grecque depuis Asclépiade jusqu'à Galen," and of M. Maurice Albert on "Les Médecins Grecs à Rome," but we have had critical recensions of such authors as Aëtius, whose twelfth book has been for the first time given to the world (πρῶτον νῦν ἐκδοθείς) by that admirable Hellenist Dr. George A. Kostomoiros, Professor of Ophthalmic and Aural Medicine in the University of Athens. It is the Father of Medicine himself, however, that has received the largest share of attention; and, whether we take the admirable biography of him contributed by the late August Hirsch to the "Biographisches Lexikon der hervorragenden Aerzte aller Zeiten und Völker," or the masterly edition by Dr. Theodor Gomperz of the Περὶ Τέχνης (or apology for the healing art) which is generally included in the Hippocratic collection, we have ground for congratulation on the fresh light thrown on the most commanding figure in medical history. Within the last few weeks we have had further evidence of the enthusiasm with which ancient medicine, and particularly its Hippocratic period, is being cultivated. Dr. Michel Sourlangas has recently presented us with an "Etude sur Hippocrate: son Œuvre, ses Idées sur l'Infection, et ses Moyens Antiseptiques," in which he puts in evidence the fact that "the great and glorious conquest of modern surgery, antisepsy, was not unknown to Hippocrates," who indeed "recommends it several times in his works and often in a way so precise 'que l'on se croirait en présence d'insinuations modernes.'" Prefixed to a useful appendix of Hippocratic maxims, in which the carefully revised Greek text is accompanied with a literal, yet flowing, translation into French, Dr. Sourlangas gives a summary of the conclusions reached in his monograph: first, that Hippocrates made medicine a science, and that on this ground he merits the title rather of Legislator than of Father of the Healing Art; secondly, that most of the infectious diseases were known to him—the *vôle* he attributes in their production to the air and the water constituting in fact a scientific study in etiology; and thirdly, that he availed himself in treatment of substances whose virtues as microbicides are undeniable. But more important than these incidental excursions into the fascinating field of ancient medicine is the new German translation of the entire Hippocratic collection by Dr. Robert Fuchs, of which the first volume is now before us. In this the reader will readily discern that Dr. Fuchs is a more learned scholar than his predecessors, and that he has also the advantage of belonging to a sounder, more scientific medical school. The language in which he reclothes the Greek author is that of modern medicine, and the interpretation he gives is such as was possible only to one who has profited by the vast accessions to our knowledge of antiquity made by the archæologist, the epigraphist, and the special investigator of antique life and culture. His familiarity with such monographs as the well-known "Die Botanik Homers" and such monumental treatises as that of Berendes on the "History of Pharmacy" (commented on in THE LANCET of April 2nd, 1892) will illustrate our meaning. The undoubted advantage he possesses over Littré, Adams, and Ermerins is also manifest in the notes, which from their richness in expository matter contribute to make this book an encyclopædia of Greek medicine. The first volume comprises the introductory writings of Hippocrates, then the general treatises, then that on Dietetics, and, finally, the general pathology and the prognostics. The second volume will include the special pathology and therapeutics, and will be ready next summer. The third, completing the work, will appear in September or October, and will deal with therapeutics (second part), surgery, ophthalmic medicine, gynæcology, treatment of infancy, and the Hippocratic correspondence. The entire publication will indicate the high-water mark attained by European research and scholarship in the "mare magnum" of Greek medicine, and our only regret in calling attention to it is that, since Francis Adams published his translation some fifty years ago for the Sydenham Society, British learning has done so little for a subject in which it has in past centuries shown its ability to excel.

THE DISCOVERY OF HELIUM.

THE earth spirit allows us to see more and more of the fabric that falls from his whirring loom, and we may, perhaps, soon be able to gather the scattered threads together and behold the full beauty of the great design. After the Faraday Medal had been presented to Lord Rayleigh at the annual meeting of the Chemical Society on Wednesday, the 27th inst., his co-worker in the discovery of argon, Professor Ramsay, was called upon to speak. He announced that in his endeavours to discover a compound of argon he had experimented with a rare earth—clevite, we believe—which was said to yield nitrogen when acted upon by sulphuric acid. Instead of nitrogen, argon was evolved, but associated with it was some strange gas. On examination this turns out to be helium, the lightest of all the possible elements, whose existence, apart from the demands of chemical theory, had only been inferred from the line D_3 in the solar spectrum. It is the first of all the elements, for below this comes the hypothetical "protyle"—that pre-elementary cosmic stuff from which all the elements are supposed to have condensed. Although this small quantity of helium was only found a few days ago its existence has been confirmed by Professor Crookes, who has identified its spectrum, of which the most powerful line is that at a wave-length of 587·47 micro-millimetres. This line is almost identical with the well-known yellow Sodium lines, and at first Professor Crookes thought that he had to deal with these, but all the magnifying power at his disposal was incapable of separating the lines into two, and

careful measurement confirmed the suggestion that the line was no other than the D_3 line in the solar spectrum, attributed to an unknown element, provisionally termed helium. A more remarkable vindication of our chemical theories than this it would be difficult to find, and Dr. Ramsay is to be congratulated deeply on this fresh addition to our knowledge and to his own laurels.

THE HEALTH OF H.R.H. THE DUKE OF YORK.

THE Duke of York has been suffering during the past week or ten days from a mild attack of influenza, from which we are glad to be in a position to report authoritatively he is now rapidly convalescing.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

MR. T. HOLMES, Hunterian Lecturer in Surgery, will deliver three lectures in the school in the month of June on the Experience of the Hospital in Abdominal Surgery (excluding gynæcological operations) from 1888 to 1894 inclusive. Dr. W. H. Dickinson, Baillie Lecturer in Physic, will deliver three lectures in the school in the same month: (1) on Some Points touching Valvular Disease; (2) on Some Recent Observations relating to the Cardio-Vascular Change of Renal Disease; and (3) on Dropsy. These lectures will all be public and members of the profession will be admitted on presenting their cards. The dates and hours will be announced later.

A DEGENERATE EXHIBITION.

IN a recent issue we drew attention to the folly, if not worse, of exhibiting patients in an hypnotic trance for the purpose of making money. Those experiments were bad enough, but we now hear of an intention to take a victim through England whilst in a trance. The first stay was to be at Cardiff (we quote from the *Evening Standard*), and doubtless crowds will flock to see the absorbing spectacle of a "slender, little, pale, nervous sort of man," apparently asleep. At Cardiff he is to stay six days, be awakened, re-hypnotised, and start for another town. Such pandering to a morbid taste is scandalous. The only possible attraction in such a show must be the idea or chance of something untoward happening; for it has not the excuse, like acrobatic performances, of being an exhibition of highly trained physical powers. In the event of a fatality occurring we hope that not only the showman but the gaping idiots who go to see the "man in a trance" will be compelled to pay a heavy penalty.

A SIX-DAY RECORD OF OPHTHALMIC SURGERY.

As an evidence of the very large amount of ophthalmic work occasionally done in a village district of India we may place the following on record. A few weeks ago Surgeon-Lieutenant-Colonel G. C. Hall, F.R.C.S. Eng., surgeon to the Allahabad Eye Hospital, was called upon to operate on a patient in a village in the province of Oudh. The village was some twelve miles from the railway and twenty-six miles from any English station. No means were taken to let the people in the surrounding villages know of the intended visit of an ophthalmic surgeon to their neighbourhood, but the news nevertheless spread. Surgeon-Lieutenant-Colonel Hall lived in camp. The natives arrived in various ways—some in bullock carts, having been four or five days on the road, from distant villages; some came on foot, led by others not quite so blind as themselves; others were carried on the backs of their relatives. A large number had no eye left to be dealt with, but all had a large amount of faith. It was altogether an extraordinary and weird spectacle to see these poor, helpless people coming into camp in the early morning and quietly sitting down in groups patiently waiting until their turn came. During six days the total number of patients seen was 394, the total number of cataracts extracted 69, and the total number of operations performed was 147. The operations were all done in the open air under the shade of a large mango tree, the patient lying on a native bed, the operator sitting at the head of it. As far as possible all the cases were treated antiseptically, and notes were taken of them with the prognosis formed at the time of operation. When Surgeon-Lieutenant-Colonel Hall left, which he did on the sixth day, a native assistant remained to look after the patients, to whom sixty-five pairs of spectacles have already been forwarded for the successful cases. We think our readers will concur with us in considering that the foregoing account records an enormous amount of hard and successful work of a most humane and philanthropic kind, of the accomplishment of which anyone may well feel proud.

THE PRESERVATION OF HEALTH IN THE FAR EAST.

OUR attention has been called to a useful pamphlet issued under the direction of the Medical Mission Committee of the Church Missionary Society for the guidance of its missionaries in China and published by the Church Missionary Society. This little guide to health has been compiled by W. P. Mears, M.A., M.D., late of the Fuh-Kien Mission, and it gives some excellent hints as to clothing, food, and residence in China. The members of the Church Missionary Society are necessarily scattered about abroad, many of them must live in isolated stations among semi-civilised people and remote from medical aid, and something in the way of a guide of this kind therefore seems to be very necessary, if not essential. The pamphlet is chiefly concerned with matters connected with travel and residence in Mid- and South-China, but it affords many very practical and useful observations for those proceeding to Eastern climates. The hints as to the personal, travelling, and general outfits required, and the remarks about the site and construction of a house, with its lighting, ventilation, drainage, and water-supply, strike us as very good on the whole. The work, it should be added, is illustrated with several excellent plans and diagrams.

ASEPSIS AND ANTISEPSIS IN OBSTETRIC PRACTICE.

THE January number of the *Annales de Gynécologie et d'Obstétrique* contains an interesting article on Professor Tarnier's work entitled "De l'Asepsie et de l'Antisepsie en Obstétrique." The earliest contribution to a determination of the nature of puerperal fever is credited to an English medical man, White, who towards the middle of the last century formulated the opinion that puerperal fever could be contagious. His views, however, seem to have met with no support. In 1846 Kneeland published a summary of the opinion of certain English and American physicians, which seems to have been very near the truth, since he insisted not only that puerperal fever was contagious, but that it might be conveyed by infected bedding &c. and by medical men, and especially if they had recently made necropsies on those who had died from puerperal fever. Still, it was not till Semmelweis, in 1847, was struck by the difference in the mortality among those who were attended by students who were working at the same time in the dissecting-room and in the class of operative surgery, and the mortality among the lying-in patients attended by midwives, that the true causation of puerperal fever was in a fair way to be ascertained. The antiseptic era as regards midwifery undoubtedly dates from 1847. Professor Tarnier recalls how when he was an in-door pupil at the lying-in hospital between May 1st and 10th thirty-two women were delivered, and that thirty-one died. He questioned his

teachers on the subject, and they told him that the epidemic was equally prevalent among lying-in women in the town, and that such a state of things "always had been so, and always would be so." Not content with this answer, and unaware of the work of Kneeland and Semmelweis, he investigated the point for himself, with the result that he found the mortality among lying-in women in the hospital was seventeen times greater than among those in private practice. This convinced him that puerperal fever was contagious. The researches of Coze and Feltz, of Pasteur, of Doléris, of Chauveau, and of Widal, by which the part played by micro-organisms was investigated, are referred to; and those that accoucheurs should more especially fear are stated to be the streptococcus pyogenes, the staphylococcus aureus, and the septic vibrio. The most interesting question from the practical point of view is as to the course of procedure needed to apply the antiseptic principle in attending lying-in women. Much valuable information is given by Professor Tarnier on this point. A list is given of the principal antiseptics in the order of their activity. Among those in common use here we find that the perchloride of mercury, free iodine, carbolic acid, and permanganate of potassium are respectively first, third, fifth, and seventh on the list. The measures needed to render the hands aseptic are given in much detail. The importance of keeping the nails short is insisted on. We see, however, that in the preliminary washing of the hands with soap and water and a nail brush it is recommended to have sublimate in the water, although it will be to a greater or less extent decomposed when so used. It is true that a final washing of the hands in sublimate solution, without soap, is also advised. We think that it is a good rule, after thoroughly washing in soap and water with a nail brush and getting rid of the soap, not only to soak the hands in the sublimate solution, but to thoroughly *brush* both the hands and nails with the same solution. We see that Professor Tarnier thinks that iodine water is the best antiseptic to choose for intra-uterine injections, and he considers that it has a special property of penetrating some distance into the thickness of the tissues. He considers sublimate lotion too dangerous for use within the uterus, unless followed by an intra-uterine injection of some inert fluid, which, of course, weakens its antiseptic action. Sublimate lotion for the hands, carbolic lotion for the instruments, and iodine water for the uterus appears to be a good arrangement for actual practice.

THE SUPERVISION OF PULMONARY TUBERCULOSIS IN NEW YORK CITY.

A RECENT number of the *American Journal of the Medical Sciences* contains an interesting account by Drs. Herman Biggs and J. J. Huddleston of the sanitary supervision of tuberculosis as practised by the New York City Board of Health. The account is one which medical officers of health interested in the control of tuberculosis will do well to read, if only to bring home to them the difficulties which beset all attempts to do this work with the thoroughness demanded by those who maintain that this disease is largely propagated by contagion. As early as 1889 steps seem to have been taken by the New York City Board of Health towards educating the public as to the nature of tubercle by means of the distribution of leaflets &c.; and in the beginning of 1894 it was resolved to take action with a view of preventing the spread of the disease. Briefly put, the steps taken resolve themselves into the registration of every person suffering from tuberculosis, in so far at least as information can be obtained by compulsory notification from public institutions and voluntary notification from private practitioners; the control by specially appointed medical inspectors of cases residing in tenement houses, boarding-houses, or hotels where such cases are not already under the care of private practitioners who have notified their willingness to give all the necessary instructions; the renovation of premises and the removal of carpets &c. in cases where it is considered desirable by the inspectors, and in affixing to an apartment previously occupied by a tuberculous patient a placard setting forth the fact that no further occupation is to take place until the premises have been renovated and cleaned to the satisfaction of the Board. Furthermore, the bacteriological examination of suspicious tuberculous sputum is undertaken by the Board of Health. As may be imagined, regulations such as those indicated above are not carried into effect without some difficulty, and we are not surprised to hear that "as yet private practitioners do not generally report their cases of tuberculosis." False addresses are, we are told, frequently given, and occasionally wrong diagnoses are made. In the death certificates, too, pneumonia and chronic bronchitis are recorded as the cause of death when it is considered expedient to avoid the word tuberculosis. These false certificates are given, it appears, in some cases owing to the fact that by the regulations of many industrial insurance companies death from tuberculosis renders the life policy wholly or partially void. Drs. Herman Biggs and Huddleston state that, although the number of apparent deaths from tuberculosis has been falling for some years, in 1894 a much greater diminution took place than was ever the case before. When, however, we have regard to the uncertain period of incubation of tuberculosis and to the duration of the disease, we are tempted to wonder whether this marked diminution in so short a period is due to the dislike on the part of the public to "renovations" and restrictions imposed or to the good effects of the measures taken. Obviously, however, it is too early to judge what may be the result of the energetic action taken by the New York City Board of Health, and we shall look forward with very considerable interest to subsequent reports on what may be regarded as a bold experiment in sanitary regulation.

THE DIFFUSION OF SMALL-POX.

THE news coming to hand from the several places wherein small-pox still finds record is of a generally very reassuring character. The data for London, it is true, show a rise in each of the past two weeks as compared with a like earlier period, the numbers for the two weeks ended the 23rd inst. having been respectively 12 and 15, as compared with 8 and 8. In the week still earlier there were 19 cases, mainly owing to recrudescence in Marylebone Parish, in which parish Mr. Wynter Blyth states, in a report just issued, that in February 39 attacks were notified and removed to hospital, the 5 fatal attacks being all in young unvaccinated children. Of the 15 cases arising in London last week 14 were removed to hospital, the institutions of the Metropolitan Asylums Board and Highgate Small-pox Hospital containing at the close of last week 58 patients, against 63, 56, and 57 on the three Saturdays preceding. One death of an unvaccinated child occurred in the week before last, the deceased belonging to St. Marylebone Parish. Thus, it is seen that small-pox still clings to the metropolis, although it seems unable to fasten on the sanitary areas in an epidemic form. The suburban districts have been fairly free from the disease during the fortnight in question; but we learn that the town of Bedford has been freshly invaded, though the number of attacks has been small, amounting to some half-dozen in all. Derby appears to have got its outbreak in hand, and to be in a fair way to exterminate the disease, though 1 death was registered last week. Liverpool and the neighbourhood have had only an odd case or two to record, 1 death being registered in the city last week. Neither Edinburgh nor Glasgow has been free from fatal small-pox in the present month. Over the Channel matters

seem to be on the mend somewhat in Dublin, though still far from satisfactory. The admissions to hospital have during the several weeks of the present year shown an almost continuous disposition to decline in number, those for the seven weeks ended March 16th having been respectively 69, 60, 56, 37, 31, 34, and 30. In the week last named there were 4 deaths registered, all in unvaccinated individuals, aged two months, one, seven, and forty-seven years. In the preceding week there were 5 deaths, 2 of vaccinated adults, aged twenty and thirty-eight years, and 3 of unvaccinated persons, aged twenty-two days, thirty-six and eighty-three years. The numbers of patients remaining in hospital in the four weeks ended March 16th fell week by week from 135 to 110, thence to 93, and finally to 72; there are, however, 118 convalescent patients at Kilmainham.

THE CRAIG COLONY FOR EPILEPTICS, NEW YORK.

THE colonisation of epileptics, which has been commenced on a small scale in this country at Chalfont and Godalming under the management of two charitable societies, is about to be carried out on a much larger scale in New York and administered by the State. An estate of 1850 acres—formerly a colony of the Shaker community—on which there are already sufficient buildings to accommodate a number of colonists, has been purchased for £23,000. The salaries of officers of the colony are to amount to £2000; 100 of the inmates are to be "indigent persons" supported by the State, just as at our own colonies a certain number of the inmates are boarded out by the boards of guardians. The system of colonisation is to be that introduced at the famous colony at Bielefeld, in Germany, and adopted at the Chalfont colony, of lodging the colonists in small numbers in pleasant cottages with cheerful surroundings. The superintendent of the colony is to be a medical man, and he will be the supreme authority on matters of discipline and conduct as well as medical adviser to the colonists.

THE PREVALENCE OF DENTAL CARIES.

THE great prevalence of caries of the teeth nowadays, as compared with the past, is a subject worthy of much consideration, for sound teeth are an important factor in the maintenance of health. To what is this alarming increase of dental caries due? A degeneration in structure no doubt plays a prominent part, and this imperfection is to be found not only in the hard tissues of the tooth, but also in the alveolo-dental membrane, as evidenced by the frequent occurrence of premature loss of the teeth, a condition insufficiently recognised and one quite as important as the prevalence of decay. From time to time various theories more or less plausible have been brought forward to account for this degeneration in structure, but the only one which seems to explain the condition in a rational way is that advanced by Mr. Smith Turner in his presidential address to the British Dental Association in 1891, in which he considers that the various changed conditions of childhood—such as diet, education, amusements—operating together rob the body as a whole, and the teeth especially, of the earthy salts which are so necessary during the period of development. Fortunately the public is awakening to the fact that careful periodic attention to the teeth is essential, but not infrequently the visit to the dental surgeon is delayed until too late. A fallacious idea is prevalent among many parents that the temporary teeth do not require attention and the child is probably not seen by a dentist until perhaps ten or twelve years of age. By this time the most important teeth in the head—namely, the first permanent molars—have been erupted over four years and are quite possibly in a hopeless condition. If the great amount of caries of the present day is to combated at all successfully the periodic visits to the dental surgeon should start immediately after the completion of the temporary dentition. Too much stress cannot be laid on this point, and it is here that the medical practitioner can do so much by directing the parents' attention to the fact.

BATHS IN THE TREATMENT OF DISEASES OF THE CIRCULATORY SYSTEM.

IN our issue of last week we printed a necessarily condensed report of the meeting at Berlin of German balneologists. This week we publish a paper by Dr. Groedel of Nauheim upon the bath treatment in use at that watering place for diseases of the circulatory system. It will be remembered that Dr. Bezly Thorne contributed an article on the method of Schott with a number of cases to our columns.[1] The present paper gives an account of the technique of the baths, which may be useful to our readers.

LOCUSTS IN CYPRUS.

A RECENTLY issued Parliamentary paper gives some interesting particulars on the subject of the repression of locusts in this island. It has come to be considered that the trapping and burning of the insects practised for some years past are unsatisfactory, and reliance is now placed on the collection of eggs during the summer and winter, and of living locusts in the springtime. Labourers were not hired for the work, but the eggs and the living locusts were purchased from the villagers by weight. For egg-cases the price was sixteen piastres the oke, representing about 2600 egg-cases, and as each case contains thirty-two eggs, assuming that only one-half of these hatch out, 2600 locusts are secured for one piastre, equal to about twopence. The living locusts were caught either by driving them on to sheets laid on the ground or by scooping them up in muslin bags. Chickens could not be induced to eat the young insects. During 1894 the sum of £4302 was expended in combating these pests. The Jewish colonists whom, according to the *Gaulois*, Baron Hirsch would like to establish in Cyprus will obviously not find it to be a land flowing with milk and honey; but, as the Chancellor of the Exchequer has recently said, it is a pity that only half of the income of the island has been available for purposes of development. It would seem under these circumstances not quite fair to condemn it as *damnosa hæreditas*.

THE BUCKS COUNTY COUNCIL.

WE referred in THE LANCET of March 16th to the fact that one of the results of the last Bucks Sanitary Conference had been to prolong the life of the county council sanitary committee, which at the time of the conference was in a somewhat precarious condition. Unfortunately the respite has been but a brief one, and we understand that at a meeting of the council, held on March 18th, it was decided by 23 votes against 19 to dispense for the future with the services of a sanitary committee. It is difficult to understand the exact meaning of this step on the part of the county council, as we can hardly believe that they propose to disregard their now by no means nominal duties in respect to the public health of their district. At the same time we fail to see how the powers of the council under the Local Government Acts, 1888 and 1894, the Rivers' Pollution, the Housing of the Working Classes, and the Isolation Hospital Acts can be properly exercised, if indeed they can be exercised at all, without the assistance of a sanitary committee. Indeed, we fear that any attempts on the part of the whole council to deal with the preliminary investigations and details in reference to complaints from parish councils &c. must, by virtue of the undue publicity which such a course necessitates, lead to a great resentment

[1] THE LANCET, May 5th, 1894.

on the part of the local sanitary authorities. Schemes and complaints brought before the council should surely be presented in a well-digested and easily assimilable form, and not in such condition as to require detailed discussion. That the Bucks County Council should have considered a sanitary committee necessary before the passing of the Local Government Bill, 1894, but not afterwards, appears to us to be a somewhat strange recognition and appreciation of their increased responsibilities. We should have imagined that increased duties required a more complex machinery.

THE HEALTH OF LORD ROSEBERY.

WE are very glad to be in a position to announce that Lord Rosebery has made decided progress during the week. His sleep has been of better quality, and he has as a consequence gained strength. He has remained at Epsom, his detention there having been partly determined by the exigencies of public business and partly by his own private preference. He has felt the improvement that has taken place in his health during his sojourn there, and has not been eager to go away for a change. Nor did his physicians wish him to do so until the severity of his insomnia had abated.

THE MIDWIVES BILL.

A DRAFT form of a Bill for the Registration of Midwives has been forwarded to us on the lines indicated in previous Bills of the sort. Those in *bonâ-fide* practice or who have obtained a certificate in some hospital or workhouse infirmary and who claim to be registered within one year from the passing of the Act will be entitled to be registered. Thereafter admission to the register will be the privilege of those who pass the examination of examiners nominated by the Midwives Board but appointed by the General Medical Council. The Council is expected also to frame rules regulating the conditions of admission to the examination and the practice of midwives. The Bill will require much criticism, for which in the present state of Imperial and medical politics there seems to be likely to be ample time.

MATTHEW HOPKINS REDIVIVUS.

IT is curious to notice how, after twenty years of School Boards and a great many other means of spreading education, superstition and savagery still linger in various places. Only the other day a farmer near Ilfracombe, whose cattle were attacked with anthrax, went to consult a "white witch" at Exeter, who informed him that the cattle had been "overlooked." He took no measures to prevent the spread of infection and is reported to be ruined. This instance, though bad enough, is as nothing to the appalling tale reported from Ireland. An unfortunate woman named Cleary was suffering from bronchitis, and some of her "friends" conceived the idea that she had been spirited away and a witch substituted. They accordingly called in a "herb doctor," who administered some potion, while the husband adjured her in the name of God to say that she was not his wife. As a means of accelerating her comprehension she was held over the fire. The next night the proceedings were repeated, and in addition she was drenched with paraffin oil and placed on a fire. As she burned more oil was thrown over her. The charred body was then hidden in a ditch. While she was burning the relatives and the "herb doctor" stood round expecting to see her fly up the chimney. As the case is now *sub judice* we cannot comment further on what will be the result; but it may well give us cause for reflection that such crass ignorance is still possible. The witch mania was perhaps the most terrible form of insanity, for it was an insanity, that ever afflicted the human race. As far as we know, neither Buddhists nor Mohammedans have been attacked by it, but the records of the Roman and Anglican Churches are full of burnings and torturings, while among Protestant bodies Cotton Mather in America and many an official in Germany made "perambulations" for the discovery of witchcraft. The curious in such matters will find an interesting account thereof in Meinhold's "Amber Witch."

"DEPRIVATION OF DEGREES."

A PAMPHLET sent to us, entitled "The Private Medical Adviser, by Dr. Fraser, M.B., C.M., on Nervous Debility, its Causes, Consequences, and Private Treatment," would appear to be a flagrant illustration of the absurd inability of the universities to deal with medical graduates who abuse their position by publishing pamphlets on private and delicate subjects, conceived in the worst style of the quack who lives on the most pitiable weaknesses of his fellow creatures. The person in question is, it is admitted, a graduate of the University of Aberdeen. The University will be quickened in its efforts to acquire powers for dealing with such graduates by the creditable action of other universities—notably, Cambridge, Durham, and Wales. In the drafting of the charter of the new University of Wales, as Dr. Isambard Owen informs us in another column, the point is to some extent provided for, and power is given to the University to revoke its degrees for sufficient cause. The section in the charter of the University of Wales does not, however, go far enough. There are many offences for which a university might desire to punish its graduates by depriving them of their degree which are not felonies or indictable misdemeanours.

DIPHTHERIA IN LONDON.

DIPHTHERIA in London has in the past two weeks shown sensible decline in its fatal form. Having fallen from successive weekly numbers of registered deaths of 31 and 34 to 27 in the week ended March 16th it showed further decline last week to 24; and whilst in the preceding week the deaths were 5 below the corrected average, they were last week also below the average—namely, by 4. All in the first week of the fortnight, and 23 in the second week, were in persons aged under twenty years. Of the total 51 deaths, the Registrar-General credits Camberwell and Greenwich each with 6, Lambeth and Mile End Old Town each with 3, and 2 each occurred in Fulham, Kensington, St. Martin-in-the Fields, and Battersea sanitary areas. During the four weeks including the fortnight with which we are dealing the admissions have been constantly growing in regard of hospital treated cases, the number having been respectively 43, 55, 61, and 64; and last Saturday found 455 patients still under treatment, as compared with preceding week-end totals of 463, 455, and 456. In this way it is seen that the disease is for the time maintaining itself in London, but shows no disposition to increase. In its fatal form especially the evidence is rather in the contrary direction. In Greater London there were in the two weeks 15 deaths registered from diphtheria, of which 9 were in West Ham, 2 in Croydon, and 2 in Romford districts.

THE DENTISTS' REGISTER FOR 1895.

PREVIOUSLY to the passing of the Dentists Act in 1878 anyone arming himself with an instrument serving as dental forceps, and presuming on the lethargy of the public, could set up as a dentist; but after the passing of this Act anyone who took the title of "dentist" or any title implying registration unless registered under the Act was liable to a penalty not exceeding £20. Despite, too, the fact that a false declaration rendered the maker thereof liable to one year's imprisonment, the publication of the first Register showed that 4806 persons embracing various

trades, not excluding the gentle craft of the blacksmith, had claimed the right to be on the Register. Many of these, of course, possessed no qualification whatever, but time must necessarily erase their names from the roll. At the present time the total number on the Register is 4901, including 27 gentlemen who possess the dental qualifications of Harvard or Michigan Universities, U.S.A. These qualifications are not yet recognised by the General Medical Council, and these gentlemen are designated in the Register "Foreign Dentists." Slowly, yet surely, the number of Licentiates in Dental Surgery of the various Royal Colleges of the United Kingdom is increasing, while the number of those whose names are upon the Register by virtue of their being in practice before the passing of the Act is decreasing. The proportion of the former to the total number on the Register is 27·82 as compared with a percentage of 26·48 in 1894. Of the latter class who do not possess qualifications the proportion is 70·93 as compared with 72·35 last year. On deducting the 27 foreign dentists from the total number on the Register and comparing the remainder with last year's figures it will be seen that there is an addition of 79 names.

PUERPERAL POLYNEURITIS.

DR. LUNZ of Warsaw has recorded in a recent number of the *Deutsche Medicinische Wochenschrift* an interesting case of this rare and peculiar condition, in which the symptoms differed considerably from those usually recognised. In the usual form there is an isolated neuritis of the upper or lower extremities, while the case here mentioned resembles more closely post-diphtheritic paralysis, inasmuch as difficulty in swallowing and diplopia were present, and also what is rare in diphtheritic paralysis, an affection of the face. With regard to the etiology of the condition it does not seem to follow only a pathological puerperium. Dr. Lunz believes that cases can be divided into three groups: a pyæmic or septic group, in which the neuritis follows some local infection; a cachectic form, which succeeds grave disturbance of nutrition, such as may be produced by loss of blood, persistent vomiting, &c.; and a third group, in which neither infection nor cachexia can be regarded as the cause, but in which the psychical disturbance which the confinement produces is to be regarded as determining the onset, just as it probably does of the puerperal psychoses which occur without puerperal infection. He urges, in conclusion, that obstetricians and psychologists should coöperate to elucidate the obscurities of these important and little understood conditions.

THE RECENT GALE.

THE gale of Sunday, March 24th, was remarkable in many ways. It was extremely destructive within the district where it was felt, but that district was remarkably circumscribed. According to the *Times*, if we take a triangle formed by joining the points of Valentia, the mouth of the Thames, and Scarborough we shall pretty accurately map out the affected region. Within this area the wind worked terrible destruction, and the accounts of the damage done to buildings and trees recall those of the great storm of 1703, when Winstanley, over-confident in the stability of his newly built Eddystone Lighthouse, hoped "that God would send the greatest storm that ever blew out of Heaven," and, as a contemporary writer remarked, "God took him at his word." Perhaps the most distressing feature of the recent storm was the number of hospitals that were demolished. At Walsall two wards in the district hospital were completely wrecked, in one of which the floor, a nurse, and eight female patients collapsed into the board-room below, but all were apparently unhurt. More disastrous were the results in the other ward, where the roof fell in and buried the patients. One man had both legs fractured and otherwise badly cut. At Grimsby a chimney crashed through the roof of the children's ward in the hospital, burying a child aged six years, who died an hour afterwards. At Hinckley, in Leicestershire, the isolation hospital, in which were nineteen patients suffering from diphtheria, was completely destroyed. Fortunately, warning was given by the wrecking of the outbuildings, and the patients were carried out wrapped in blankets and laid under a hedge. A word of praise is due to Mr. Goode, who offered his house as a temporary shelter. Compared with tropical hurricanes, our record of disaster is perhaps light, but for all that we fear that widespread distress has been caused.

MENTAL DISTURBANCE FROM IODOFORM.

IN the *Neurologisches Centralblatt* there is the abstract of a curious case recorded by Dr. Oldenburg. A female patient aged fifty-one, who had suffered from epileptic attacks from the age of twenty, but in the intervals between the attacks had been quite healthy and not psychically peculiar, injured her hand in a fit and was treated with a 10 per cent. iodoform ointment. Twelve days later she became excitable, restless, and confused, and by-and-bye had hallucinations. The urine gave a distinct iodine reaction. When admitted to hospital she talked incessantly, would not answer questions, could scarcely be kept in bed, and complained of plots and persecution. The restlessness increased, and the patient became cyanotic; the urine contained albumen, but gave a very slight iodine reaction. She then remained quiet for a few days, but became again demented, after which she had another period of quietude followed by another outbreak, which, however, subsided, so that she was then able to be discharged. Dr. Oldenburg thinks the condition cannot be regarded as a post-epileptic mental disturbance, because of the interval that elapsed between the last attack and the onset of mental symptoms. He thinks it was determined by the iodoform poisoning acting upon a nervous system predisposed by epilepsy to grave disturbance.

THE LIQUEFACTION OF HYDROGEN ACCOMPLISHED.

UNDER the combined influences of great pressure and intense cold, hydrogen has at last surrendered and been liquefied. The means by which this has been effected have, of course, been at the disposal of the physicist and chemist for many years, but Professor Olszewski of Cracow, who, it may be remembered, also liquefied argon and examined its properties, has been the first to succeed in obtainirg liquid hydrogen in tolerable quantity, since he has been able, we learn, to give two constants in regard to it. Thus it is announced that its critical point—the temperature at which it passes from a liquid to the condition of vapour—is $-233°$ C., and its boiling point at normal pressure is $-243°$ C. It is well known that hydrogen has hitherto most strenuously resisted all attempts at liquefaction, and the fact of its obduracy in this respect, though in other respects it is most tractable, having now been overcome, removes the only gaseous element known to us which has not been liquefied. Until, therefore, more attenuated gases even than hydrogen are added to the list of chemical simplicities no further discoveries on this particular line of research can be hoped for. Meanwhile a detailed communication from Professor Olszewski on his very important discovery, which has just been announced, will be awaited with keen interest.

IT has been decided by the Abernethian Society of St. Bartholomew's Hospital to hold a conversazione in the Great Hall of the Hospital and in the Medical School buildings to celebrate the centenary of the Abernethian Society on May 1st, 1895. Any past members of the society who desire

to be present on the occasion should communicate with the secretaries of the Abernethian Society before April 15th. A card of admission will be sent to those who apply, together with a ticket for one friend if desired. The number of tickets issued will be limited.

THE Erasmus Wilson Lectures on Pathology at the Royal College of Surgeons of England will be delivered by Mr. J. H. Targett, as already announced, on Monday, Wednesday, and Friday next, at the College, at 5 P.M. Mr. Targett has selected for his subject "Certain Forms of Neuropathic Joint Disease."

THE publication of the report of the Royal Commission on Opium is now imminent. The only dissentient to the opinion that both the cultivation of opium and the tax upon it should be maintained is understood to be Mr. Wilson.

THE REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1893.

THE appearance of this bulky volume is looked for with interest in India and by all those who are concerned with the public health and vital statistics of that country. It is a sort of official health handbook of India of a big and ambitious kind. It deals with the diseases of the European and native armies, the gaols and civil populations of India, with the epidemics that have prevailed during the year, and in addition to affording a vast amount of information embodied in a number of voluminous tables of all kinds has an appendix in which health problems and questions of a special and scientific kind are discussed. It cannot be denied that these reports are very laborious and valuable productions, of interest alike to the politician, the statesmen and military department of India, and the medical statist; but able as they are do they not attempt too much? It is impossible, as it appears to us, to deal adequately with such colossal materials and figures as the civil and military populations of such a vast country as India and its disease causes in any one volume. To begin with the European army. The strength of that force serving in India in 1893 was over 70,000; the ratios per 1000 respectively were as follows: admissions into hospital, 1415; constantly sick, 87; deaths, 12·61; invaliding, 25; total loss, 38. The death-rate (12·61) seems to have been the lowest recorded for a number of years and was much under that for 1892, when it stood at 17·07 per 1000; the admissions were also less; and the health of the British army in India may therefore be said to have been better in those respects in 1893 than in 1892. Among the chief causes of admission were venereal diseases and ague. The increase in the former was very considerable; there were no less than 32,663 admissions for venereal disease, or 466 per 1000 against 410 in 1892. The admission-rate for cholera fell from 2·5 to 0·2 per 1000, and that for influenza from 12·7 to 0·3. Venereal diseases caused 33 per cent. of the total sickness, and ague 26 per cent.

The chief causes of mortality were enteric fever, pneumonia and pulmonary tubercle, dysentery, and injuries. Enteric fever caused 42 per cent. of the total deaths, and injuries 8 per cent. There was a marked increase of sickness amongst the European troops stationed at Quetta. The admissions for ague at that station were more than doubled. The health of the troops in Burmah has improved steadily since 1889, but the improvement in respect of sickness from malarial fever is almost counterbalanced, we are told, by increased prevalence of venereal disease. The admissions from this cause in 1893 amounted to 503·1 per mille. Enteric fever is much more prevalent in Bengal than in either Madras or Bombay: so also is remittent fever. On the other hand, simple continued fever appears to be more prevalent in Madras than in Bombay and Bengal, and the same remark applies to dysentery. In all three Presidencies enteric fever causes the largest number of deaths; next to it, and in all the Presidencies, comes hepatic abscess. The percentage respectively of enteric fever, hepatitis, dysentery, and pneumonia in the total deaths of each Presidency in 1893 was:—

—	Bengal.	Madras.	Bombay.
Enteric fever	44·6	35·2	36·5
Hepatitis and hepatic abscess	7·0	11·7	5·1
Dysentery	3·4	6·2	5·1
Pneumonia	6·5	2·3	4·4

It may be remarked here that the prevalence and mortality from pneumonia are much greater amongst the native army than amongst the European troops: about 4 deaths among the former to 1 of the latter. Moreover, although dysentery affects European and native troops almost equally there is a marked difference in their liability to abscess of the liver; the admissions from this cause amongst the former were thirteen times more numerous, for equal strengths, than among the latter, and the mortality was twelve times greater. As regards enteric fever, we know that the liability of the European soldier to that fever, as compared with the native, is enormously greater, but we shall revert to this point later on. The foregoing facts are noteworthy, however, and open up, as it seems to us, a field for useful investigation.

As regards cholera there were only 16 cases throughout the European army in India in 1893 with 10 deaths; 9 of the cases occurred in Bengal, 6 in Bombay, and 1 in Madras. Of the Bengal cases 4 occurred at Umballa, and were, in the opinion of the medical officer, due to importation from a gang of infected coolies working on the Simla road in April; but as it was not known that the coolies ever entered Umballa, and no sort of communication, direct or indirect, was traced, this hypothesis is deemed untenable, especially as it is a fact that in years of epidemic cholera April and May are precisely the months for the disease to make its appearance in Umballa. There were also 3 fatal cases at Meean Meer. They all occurred within thirty-six hours, on May 3rd and 4th. Two of them belonged to one regiment, but to different companies, while the third occurred at a distance of two miles from the others. The hypothesis that the disease was conveyed in this instance by either soda water or drinking water, which was urged, seems to be contradicted by the fact that the disease only lasted two days and affected only three men, one of whom lived at a distance of two miles from the others. Whilst on this subject we may repeat what we have said long ago, that we have no confidence in barrack filters. They are, under the circumstances and conditions of military life in cantonments, probably rather a source of risk and danger than a protection to health against pathogenetic micro-organisms. The reliable and proper plan is to provide a perfectly pure and good water-supply at its source, and to see that it is kept so and protected from all contamination until it reaches the individuals drinking it.

(To be concluded.)

ALDERSHOT: THE SANITARY AND SOCIAL CONDITIONS.

(Concluded from p. 772.)

WE dealt last week with the question of the drainage of Aldershot; the disposal of sewage is, however, not the only difficulty to be surmounted there. The presence of the camp has brought about social conditions that are the cause of much embarrassment to the civil authorities. The camp indirectly causes a considerable increase of pauperism, with which the civil authorities have to deal. For instance, a large number of military pensioners have elected to live at Aldershot. These pensioners are paid every three months. This mode of payment is a very serious mistake. A great good would be effected if the military authorities could arrange to pay the pensions in weekly instalments—through, for instance, the agency of the post office. The necessity of a reform in this direction has made itself heavily felt at Aldershot. The old soldiers, having received their quarterly allowance, to use their own expression, "lived like lords" for a week or two; then, when all their resources were exhausted, came upon the union and lived at the ratepayers'

expense for the rest of the quarter. This was so crying a grievance that special regulations had to be made by which the workhouse authorities got a charge on the pensions of those pensioners whom they had relieved.

Though the difficulty caused by the pensioners has thus been settled, nothing as yet has been done with regard to the grave problem involved by the presence of a large number of women whom soldiers have married without obtaining leave. These women usually follow their husbands about from garrison to garrison; but at Aldershot the soldiers are prepared for foreign service, and it is impossible for these women to follow their husbands to Gibraltar, Malta, India, &c. Thus it is at Aldershot that the separation between man and wife very generally takes place. What becomes of these unfortunate women when their husbands have gone? It is not in a small town of only 14,000 inhabitants that they can readily find employment. Some may obtain a little washing to do either for the women in the married quarters or for the officers' families; probably the greater number are driven to prostitution. Some of them become so extremely poor that they reach the very lowest strata of fallen women. Their poverty is such that they have been known to sleep in the open air, and offences against decency are often committed under the shelter of trees, embankments, furze, and other covering. As there is no law whatsoever to regulate the conduct of these women, to bring them under treatment when ill, to teach them cleanliness, and to put them in connexion with those institutions that would help them to a better mode of life, syphilis and other contagious diseases are of course very prevalent at Aldershot. This is a vexed question, and there has been much juggling with figures; but in any case, so far as Aldershot is concerned, the last Army Medical Department Report for the year 1893 confirms the opinion just expressed that the grievance is especially acute at Aldershot. Taking all forms of venereal disease together for the United Kingdom, the total admission ratio per 1000 was 194·6, and the constantly-sick rate 16·68, and these compared with the average of the last seven years show a decrease in the former of 29·0 and in the latter of 0·79. As compared with the previous year, the decrease in admissions is 6·6 per 1000, whereas at Aldershot, instead of a decrease there is an increase of admissions equal to 36·9 per 1000.

If we take the figures during the last few years the Contagious Diseases Act was in force we find that the ratio of admissions for venereal diseases at Aldershot was in 1878 136·36; in 1879, 163·35; in 1880, 197·78; in 1881, 211·58; and in 1882, 261·13 per 1000. How far this notable increase of figures is due to the less strict application of the Act at a time when it was about to be abolished or to the arrival of a specially large number of recruits it was difficult to ascertain. With regard to the recent figures, these were not altogether easy to obtain and seemed rather low. Under the heading "venereal diseases" the ratio for the last three years was 252·3, 210·3, and 156·6 per 1000; but this did not include ulcers of the penis and balanitis. Adding these complaints, the figures were apparently 260·03, 221·3, and 189·8 for the years 1890–91, 1891–92 and 1892–93. As there has been an increase of 30·9 for 1893 the figure for that year would show that 226·7 soldiers out of every 1000 soldiers quartered at Aldershot were admitted during the course of the year for all forms of venereal disease.

Considering the great fluctuation that must ever take place in such diseases it will be seen that there is no very marked difference in the prevalence of venereal disease before and after the Contagious Diseases Act was abolished. But then it must be borne in mind that these figures include gonorrhœa, which the Act does not help to check. The utility of such legislation is best set forth when the prevalence of secondary syphilis, about which there can be no mistake, is studied. Thus, in 1893 the rate of admission into hospital for secondary syphilis was in the United Kingdom equal to 31·8 per 1000, and the constantly-sick rate 3·31. The figures for England and Wales stood higher—namely, 37·4 and 3·74; and the average for the last seven years in England and Wales was 39·5, and 3·66 constantly sick. If, on the other hand, we take the island of Malta, where a Contagious Diseases Act is in force, the ratio per 1000 of admissions for secondary syphilis in 1893 was only 13·3, and the constantly-sick rate only 1·69. The average at Malta from 1886 to 1892 of cases of secondary syphilis is 14·6 per 1000 per annum, and the constantly sick 1·42. Thus, roughly and to put the case in round figures, we may say that for three soldiers who suffer from secondary syphilis in the United Kingdom, where there is no Contagious Diseases Act in force, only one soldier suffers from secondary syphilis in the island of Malta, where a Contagious Diseases Act is in force. With regard to all classes of venereal diseases the statistics for Malta do not present the same startling difference, but they are more favourable than the home returns. For 1893, instead of 194 admissions to hospital and 16·68 constantly sick, the figures for the United Kingdom, there were at Malta 122·3 admissions and 10·56 constantly sick; and these latter figures are above the average. From 1886 to 1892 the average at Malta was 91·6 admissions to hospital and 7·39 constantly sick for all venereal diseases per 1000 men per annum.

In dealing with this question we must not only look at figures. Above all, we must consider social conditions. These, fortunately, have greatly improved. First and foremost, the army is composed of a much higher class of men than was the case some twelve and more years ago when the Contagious Diseases Act was in full force. The School Board has had time to produce a change for the better, and there is now a fair sprinkling of gentlemen serving in the ranks. There are also more mechanics, tradesmen, shopmen, &c., who now drift into the army. The husbandman and common labourer, from which class the majority of recruits were formerly drawn, no longer constitute the preponderating element. Then the labourer of to-day is better educated than his predecessors, and when in the ranks finds himself surrounded by a much superior set of companions than was the case a decade or two ago. In a word, the whole tone of the rank and file of the British army has improved. As a result the soldiers are more careful and better behaved; they are more sober and more clean. In building the new barracks at Aldershot especial care was taken to provide the soldiers with improved facilities for personal cleanliness. The men, being better educated and more intelligent, are also more careful. Many complex influences have been at work, more especially of late years, otherwise the evil effects of abolishing the Contagious Diseases Acts would have been even more marked than is actually the case. These evils still, however, constitute the gravest difficulty. What is to become of the abandoned wives of the soldiers who have gone abroad? How can women known to be diseased be prevented from frequenting the streets? In round numbers we may say that almost one out of every four soldiers quartered at Aldershot contracts venereal disease in the course of the year. Apart from the reduction in the efficacy of the army this implies, it also means that there is a great prevalence of venereal disease among the civil population, and this must in many instances culminate in abject pauperism. Thus the ratepayers are made to suffer. There are more paupers in Aldershot than anywhere in the neighbourhood. The number of in-door paupers in the Farnham Union in 1893 was equal to 17 per 1000 of the population; but in the Aldershot district it was equal to 22 per 1000. The widespread prevalence of immorality that must result from the gathering together of a large number of young unmarried men is always a grave matter. At Aldershot the difficulties are greater than usual, because the town is very small, has very few resources of its own, and it is burdened by the presence of a number of the abandoned wives of soldiers married without leave.

TUBERCULIN AND BOVINE TUBERCULOSIS IN THE STATE OF NEW YORK.

THE knowledge which has been acquired within recent years of the prevalence of bovine tuberculosis, more particularly in adult cattle and dairy stock, has excited considerable attention among public authorities in many countries. In Denmark and in Prussia, for example, the matter has been extensively taken up by the sanitary authorities of the State, and in our own country by the present Royal Commission on Tuberculosis; and, seeing the energy which the Health Departments of some of the States of the Union have thrown into all questions relating to the contagiousness of tubercle, it is no matter of surprise that the question of bovine tuberculosis has been widely attacked in America.

In an article in THE LANCET of Feb. 3rd, 1894, it was pointed out that a valuable method of diagnosing tuberculosis in cattle had arisen in Koch's tuberculin, and that with its aid efforts were being made in many directions to recognise tuberculosis

and to endeavour to exterminate it from herds much as pleuro-pneumonia can be exterminated. Such an effort has been made by the State Board of Health of New York, and the story of its action is to be found in vol. ii. of its annual report for 1894.

So early as 1892 a statute of the State of New York called upon its Board of Health—(1) to ascertain whether or not there exists in milch cows or other cattle in the State a cause of disease or danger to life, and (2) to devise means for averting the same and for preventing all injury from tuberculosis in milch cows. To this end ample powers were given to the Board to employ and fix compensation to medical and veterinary practitioners, to prescribe rules, to make and secure the enforcement of orders, and, finally, to destroy all cattle affected with tuberculosis, laying it down as the Board's duty, whenever tuberculosis is found to exist among milch cows or other animals, to suppress it promptly and to prevent its spread.

The Board proceeded with great promptitude to act upon this mandate. A staff of veterinary tuberculosis inspectors was appointed and rules drawn up for their guidance. These rules at the outset had relation to diagnosis chiefly on the strength of physical examination; but as the futility of this method soon became manifest the rules were modified so as to make tuberculin the cardinal test. Thenceforward, in the main, animals inspected were passed or slaughtered according to the results of tuberculin injections.

From the end of 1892 to the early months of 1894 the staff of inspectors appears to have caused the slaughter of over 1000 cattle, principally cows, on the ground of demonstrable or of suspected tuberculosis. What number were actually inspected and in what precise proportion tuberculin was used it is unfortunately impossible to gather from the report. If we add up the numbers given for different herds in the several counties we reach a total of over 20,000 inspected; but we find in the introduction to the report the reservation that "in many cases the same herd, or part of the same herd, is noted two or three times," and no data are given by which we can correct this error. It is apparent, however, that whether the 1000 slaughtered were among 20,000, or whether (as the introduction suggests) among a considerably smaller number, they indicate a very extensive and serious prevalence of the disease; for there can be little doubt, after reading the accounts of post-mortem examinations of the cattle condemned, that in a very considerable majority tuberculosis was present in one or another form. In some instances the reports of these examinations call for comment, and it is not always easy to agree with the diagnosis as given. Thus, on p. 247 the whole account of the post-mortem examination of Cow 5 (tabulated elsewhere as tuberculous) is an example of several equally dubious:—

"Lymphatics: Retro-pharyrgeal enlarged; serous membranes, no calcareous deposits found; uterus, with fœtus, bull, six months. Diagnosis: tuberculosis."

We find, too, a number of cases in which confirmation of the inspector's diagnosis by a skilled pathologist would appear to be very desirable. Little if any examination for tubercle bacilli seems to have been made, and the special pathological reports that are given are somewhat meagre and inconclusive.

Among the undoubtedly tuberculous a point of considerable interest is the limited extent to which tuberculous lesions were frequently found. Taking at random the record of the slaughter of twenty-five animals in one herd (at pp. 233-245), we find that in twelve the tubercle was confined to calcareous glands (in one case only a few "pin-head deposits") in the thoracic cavity, without any affection of the lungs or organs elsewhere; while only in four or five of the remainder is any evidence given that the tubercle was becoming general or at all extensive.

The fact remains, however, that tuberculosis, whether slight or severe, was found in a very large number of the animals condemned, and we cannot but admire the energy with which the Board of Health has set itself to work to detect and destroy the disease. And in this connexion its methods of diagnosis, particularly the result of tuberculin injections, are worthy of careful study. Have the indications of tuberculin been sufficiently constant to give reasonable grounds for its administrative action? It is disappointing not to find an answer to this question in the report. Only casually, in the reports of a few inspectors, is any reference made to the source of the material (though it appears there are both a "U.S." and a "K" tuberculin), nor are we told whether any method has been adopted to secure its uniformity, or, in the case of a number of the injections, what dose has been given. Again, while the Board, defining the normal temperature of cattle to be from 99° to 102° F., lays down that a "reaction" is a rise of 2° or more above the mean of two temperatures taken before injection, it has also directed its inspectors to use discretionary power in cases of doubt. The latter appear to have interpreted this permission in a liberal spirit, and to have condemned a number of animals which did not react according to the definition. But unfortunately they do not supply us with details in many of these cases, and in others the reason of slaughter is extremely difficult to understand. Perhaps the greatest difficulty of all is the absence of any system of control experiments. From the first the certainty of tuberculin seems to have been taken for granted. We may instance (from p. 114) the remark of an inspector, apparently perplexed at having slaughtered two cows innocent of tubercle post mortem, that in their case "the reaction was so positive that it seems scarcely probable that these animals were not tuberculous."

Some indications, however, may be obtained from those cases in which post-mortem examinations have been made upon animals whose temperatures before and after the injection have been fully recorded, and it is worth while to go through them and apply to each the definition of reaction given by the Board of Health. An analysis of 682 cases collected from the several counties may be put into the following table:—

—	Number slaughtered.	Tuberculous.		Doubtful if tuberculous.		Not tuberculous.	
		No.	Per cent.	No.	Per cent.	No.	Per cent.
A. Undoubted reaction	569	*534	94·0	16	2·7	19	3·3
B. Reaction doubtful, owing to temperature above 103° before injection	30	20	—	2	—	8	—
C. Reaction doubtful from other causes ...	28	18	—	1	—	9	—
Total of A, B, and C.	627	572	91·2	19	3·0	36	6·8
D. No reaction	55	16	29·0	12	22·0	27	49·0

* Including 25 cases where the post-mortem evidence of tuberculosis is extremely slight.

It will be seen at once in what a large proportion the indication of tuberculin has been found correct, but it will also be seen that it is by no means free from error. If we exclude the animals in B and C, whose reaction was doubtful, the error is only 3·3 or at most 6 per cent.; but to omit to recognise these doubtful reactions would be to pass 38 tuberculous animals out of 58. Adding them, therefore, we find the mistaken cases range between 6·8 and 9·8 per cent. On the other hand, tuberculous lesions were found in as many as 16 out of 55 animals that did not react, but were slaughtered notwithstanding by the inspectors for various reasons.

The existence of these errors appears to be a matter of considerable moment. If among the animals passed because they did not react there exists anything like the proportion of tuberculosis found post mortem in the non-reacting animals slaughtered, then the administrative action taken will have been of little use in the interests of the cattle. For them the theory acted upon is that tuberculosis in whatever form is infective, and if, therefore, in any herd a number of tuberculous animals escape detection so many centres of infection for the rest remain. And until we know more certainly what particular conditions of bovine tuberculosis are dangerous to man, we can hardly affirm that an incomplete destruction of tuberculous cattle, however extensive, is the simplest or most efficacious method for the protection of human health.

The reader of this report cannot but reflect that if, in spite of the want of exactness and uniformity of method that has been indicated, tuberculin has nevertheless been successful in diagnosing tubercle in so large a proportion of animals, what might not be expected of it if the conditions of its action were thoroughly investigated and properly defined? The New York Board of Health had a great opportunity; the country was alive to the danger, the Legislature gave the

Board a free hand in dealing with the question, and, judging merely from the report, it would seem that no condition was wanting to enable an accurate determination to be made of the conditions under which tuberculin is a trustworthy test. As it is, the Board has done much commendable work on a large scale, but appears to have made little endeavour to formulate at the outset any scientific basis for its action. After reading the report it is hardly surprising to discover that considerable dissatisfaction has arisen, and that the Legislature has been compelled to suspend the powers of the Board and appoint a commission to consider the question afresh.

UNQUALIFIED MEDICAL PRACTICE AND DEATH CERTIFICATES.

AN inquest was held at Coventry on March 15th before Mr. Charles Webb Iliffe, coroner for North Warwickshire, on the body of William Alfred Gumbley, the sixteen months old child of a bicycle polisher living at 4 court, 5 house, Leicester-street, Coventry. The case excited much interest in the city owing to the discussion which took place at the inquest as to the issue of the death certificate.

The mother of the child deposed that he had been healthy from birth, but on the previous Monday she noticed that he was very poorly. When her husband came home at dinner time she told him of the child's illness, and the father said to her, "Have you got a shilling?" and she replied "Yes." He then said, "You go and take the boy to Millerchip," and she took him to 4, Swanswell-place and saw "Dr." Millerchip.—The Coroner: Why did you call him "Dr. Millerchip"? Witness: That is what I have heard the Coventry people call him.—You did not know he was not a medical practitioner? If I had I should not have taken the child to him.—You only had a shilling? No, sir. I went to Millerchip's and when the door was opened I saw an assistant who took me into a room and "Dr." Millerchip came in with him.—Were there any other people there? No one else; only the "doctor" and his assistant. The latter looked at the child, said it was a very bad case, gave me a powder, and told me to take the child home and give him a warm bath.—Is it a fact or not a fact that you did not see the assistant at all? Both were there when I went the first time, but the assistant gave me the powder and "Dr." Millerchip went out. The assistant said the child was as bad as ever he could be.—What did "Dr." Millerchip say? He did not say anything whatever.—You were really consulting the other person, the assistant? Yes.—You paid a shilling to the assistant or to Millerchip? To Millerchip.—When you started from home whom did you think you were going to see, Mr. Millerchip or the assistant? I did not know whom I should see; I wanted to see anybody who could save my child. I went with the intention of seeing Mr. Millerchip.—Had you seen the assistant before? Yes. The witness went on to say that a few weeks before the child was taken to the Coventry and Warwickshire Hospital, but she was told that whooping-cough (from which he was suffering) was not treated there.—Whom did you go to with this child? "Dr." Millerchip.—You thought Mr. Millerchip was a doctor? Yes, I did.—Have you since learnt differently? Yes, or I should have my baby now.—Did you know that if your child died Mr. Millerchip had no power to give a certificate for burial? I did not know. I thought he was a doctor. On leaving Millerchip's house she took the child home and bathed him, but he got worse. She went to Millerchip again in the evening, and he then said to her, "I have done all that I can for the child." Her husband then said, "I will call in another doctor," and he went for Mr. Overton, surgeon, who came at 10.30 P.M.—Did Mr. Millerchip's assistant make any visit? No; I could not get "them" to come. The child died while her husband had gone to Mr. Overton's for medicine. She (the mother) went to Mr. Millerchip for a certificate, and he said he could not give one.—For what reason? Because we had called another doctor in.—Had you seen this assistant at Mr. Millerchip's before? No.—Did you only a little time ago see another assistant? Yes.—Mr. Overton declined to give a certificate. She and her husband went to Millerchip again the next morning, and he then gave a certificate, the cause of death being put as convulsions, secondly as exhaustion, and the paper was signed "Samuel Murphy, L.R.C.S.I." Mr. Millerchip said, "We will give a certificate rather than have any bother about it."

The coroner, in reply to the foreman of the jury, stated that Mr. Millerchip was not entitled to give a certificate, he not being a qualified practitioner. Mr. Murphy was registered in Ireland. There had been (added the coroner) a number of cases that had been attended by Mr. Millerchip in people's own homes, and then an assistant had been called in at the last moment for the purpose of giving a certificate of death. The registrars had sometimes objected to accept these certificates without reference to the coroner. These assistants were, as it were, "covering" Mr. Millerchip and saving him from responsibility.

John Gumbley, the child's father, was next called, and he corroborated the wife as to the child being taken to Mr. Millerchip, whom he had heard spoken of as "a clever man."—The Coroner: Do you think he was clever as a doctor? Yes.—Did you know he was not legally qualified as a doctor at all? No. He knew a lot of people went to him, but had not heard of Mr. Millerchip visiting patients. The father went on to say that Mr. Overton, when he saw the child alive, thought that poison must have been taken. On his going to Swanswell-place for a certificate he told Mr. Millerchip he had called in another doctor, and Millerchip then said, "If you have called in another doctor it is nothing to do with me. I can give no certificate." He went a second time, and then Millerchip said to him, in the presence of the assistant, "You don't want your child to be cut open and hacked?" and he replied "No." Then Millerchip turned to the assistant and said, "You had better give him a certificate," and the assistant wrote one.

Thomas Golby, coroner's officer, deposed that the registrars of deaths in the city had called his attention to certificates of deaths of persons treated at 4, Swanswell-place. This was the fifth case since Jan. 1st where it was alleged that certificates were signed by assistants who had seen the patients only a short time before death. His investigations led him to believe that Mr. Millerchip had attended people not only at his surgery, but in their own homes.—The Coroner: As a professional man? Yes. Someone else has gone to the patient just before death, and then signed the certificate at death. He remembered a case of the sort that came before the coroner eighteen months ago. The assistant then was an old man, who admitted that he was called in for one visit before death.

Mr. Percy Edgar Overton proved that he and Mr. Edward Phillips made a post-mortem examination of the body of the child Gumbley, and that they were unable to say what was the cause of death. The child's organs were healthy. Mr. Phillips added that he was not in a position to say whether the secondary cause was exhaustion. All depended on what exhaustion meant.

The Coroner summed up the case for the jury, and commented on the impropriety of a medical man giving a certificate of death without full acquaintance with the case, and of a system of "cover" to an unqualified person.

The jury returned a verdict of "Death from natural causes."

ANÆSTHESIA IN THE LOWER ANIMALS.

NOT very long after the introduction of chloroform as an anæsthetic into medical practice, and when its beneficent and pain-suppressing powers had been fully demonstrated on mankind, inquiry began to be made as to why its merciful influence should not be extended to the domestic animals when they had to undergo painful operations, especially those of a protracted kind; and we remember reading a most eloquent appeal for its employment in the case of the horse in a clever little book, published nearly forty years ago, by Sir Francis B. Head, entitled "The Horse and his Rider." This appeal is perhaps as necessary now as it was when first made, and certainly it should be brought again to the notice of those who, for some reason or other, do not resort to anæsthesia, general or local, when plying the cutting instrument, the burning iron, or other pain-producing agent on animals. In the section of his book on chloroforming horses, after dwelling on the unspeakable boon that had been conferred on man by the application of anæsthetics in the abolition of suffering and agony, he says: "Now, if in

return for this extraordinary alleviation, or rather annihilation, of all sufferings under surgical treatment, man should deem it his duty to render thanks to that Omnipotent Power from which it has proceeded, is it possible for him practically to perform any more acceptable act of acknowledgment than to allow the dumb creatures in his service to participate in a blessing which, by Divine authority, has been imparted to the possessors, not exclusively of human reason, but without favour or exception of animal life? As regards his horses, the performance of this duty is especially incumbent; for not only, like all other animals, are they liable to the accidents and ills that flesh is heir to, but some of the cruelest operations to which they are subjected—such, for instance, as cutting off and cauterising their tails, burning their sinews with red-hot irons, dividing and cutting out a portion of a nerve (sensory), with other excruciating operations on young horses, under which they are often heard to squeal from pain—are inflicted on them to comply with either a useless as well as a barbarous fashion; or to enable them 'to go for another season's hunting'; or for the attainment of conveniences of which the horse derives not the smallest share; or to make them 'sound enough to sell'; and as the high-bred, broken-down hunter has no voice to ask for mercy, as he cannot boast of possessing reason, or as he has inherited no knowledge, as he has no power to bequeath any, as his whole energies have been devoted to the service and enjoyments of man, by whose mechanical contrivances he is now 'cast' with his four feet shackled together, lying prostrate on a heap of straw, just before the red hot iron sears his overstrained sinews or the sharp knife is inserted into his living flesh—surely in a civilised country like England some high power should be authorised to exclaim, not 'Woodman, spare that tree!' but '*Sportsman, save that horse!*' by chloroform from the agonising torture to which you have sentenced him. You are a man of *pleasure*—save him from unnecessary *pain*. You are a man of business—inscribe in that ledger in which every one of the acts of your life is recorded, on one side how much *he* will gain, and on the other, *per contra*, how very little you will lose, by the evaporation or a fluid that will not cost you the price of the shoes of the poor animal whose marketable value you have determined, by excruciating agony to him, to increase."

This urgent appeal concludes with another allusion to the benefits chloroform has conferred on the human species, and adds: "If, therefore, man to this enormous extent is benefited by chloroform, what right has he to withhold it from his own animals, to whom, not only in equity, but by the laws of God it belongs as much as it belongs to him? Their claims are so affecting and so obvious, the remedy that would save them from all pain is so cheap and simple, that we feel it is only necessary to appeal to the public to obtain by acclamation a verdict in their favour."

Notwithstanding this and similar appeals and remonstrances, the employment of anæsthetics has made slow progress in veterinary practice, expense, trouble, and time being usually the pleas offered for their non-adoption. A number of veterinary surgeons, however, resort to them on every possible occasion, and, putting the avoidance of pain on one side, testify to the advantages they derive from them; indeed, there are some operations which could not be attempted with any hope of a successful result unless the animal is under the influence of an anæsthetic. Even in cases of difficult parturition, partial anæsthesia, especially in the mare, is found to be most advantageous in effecting delivery. Of all animals the horse is the one to which chloroform can be most safely administered; in fact, it is sometimes an arduous task to destroy this creature by inhalation of the drug. It has been given to hundreds—it might be said thousands—of horses, almost undiluted with air, and with absolute impunity. But some veterinary surgeons imagine that there may be danger in this rapid anæsthesia, and advise the mixture of chloroform and air, which, if it requires a longer time to produce the necessary degree of narcosis, is safer. However this may be, it is gratifying to find that attention is being increasingly directed to this matter; and among those who have distinguished themselves in this direction, and have laboured to dispel the prejudice which still opposes the use of chloroform, must be named Mr. Wallis Hoare, F.R.C.V.S., Cork, who, in advising the dilution of chloroform vapour with air during inhalation, has improved on the ordinary apparatus by a modified bag and foot bellows, which appears to be easily worked and effective. For adult horses the quantity of chloroform required in this apparatus is from one and a half to two ounces, the time occupied in producing complete anæsthesia varying from ten to fifteen minutes, and Mr. Hoare regards loss of muscular power in the limbs and loss of sensation on striking the animal firmly on the quarter as the best indications of the proper stage at which operations may be commenced. Mr. Hoare is evidently an enthusiast in this humane practice of veterinary surgery, and it is earnestly to be hoped that his example may be largely followed; for though all animals should receive merciful consideration when they have to undergo operations, surely none of them is more entitled to this than the horse, whose muteness under the infliction of pain seems to lead people to think that he suffers but little—a grave error, but one which has caused him to be more abused and tortured than all the others put together.

THE

COMPLIMENTARY DINNER TO SIR JOHN E. ERICHSEN, SIR J. RUSSELL REYNOLDS, AND SIR JOHN WILLIAMS.

SIR JOHN E. ERICHSEN, Sir J. Russell Reynolds, and Sir John Williams were entertained at dinner on Wednesday evening by their colleagues, friends, and pupils at the Criterion Restaurant. The Vice-President of University College, Lord Reay, presided.

Lord REAY, in rising to propose the health of the three distinguished guests, said it was impossible to leave out of sight the extraordinary revolution which the science of which they were the illustrious representatives had undergone. After briefly tracing the development of their professional knowledge and touching upon the recent discoveries of Roux with reference to diphtheria; of Lord Rayleigh and Professor Ramsay with regard to argon and helium; of Kitasato with regard to the microbe of the plague; of Sir Joseph Lister, Pasteur, and others, he said the conquests which had been achieved were tangible ones, tending to make life more worth living. Referring to the efforts which had been made to rid the profession of quackery, he would like to see other professions adopt something similar to the Medical Register. He saw little signs, however, of getting rid of quacks in other professions, and in this respect the medical profession in England had been singularly fortunate. To belong to such a profession was in itself a great honour. To rise to a leading position in the profession such as that which their three guests held made it superfluous to enter into biographical details. Of Sir John Erichsen it was sufficient to mention that he was the author of a standard work on the Science and Art of Surgery; and those who had worked with him, for him, and under him, in University College knew the stimulating power of his work. His example had left an indelible mark. Sir Russell Reynolds' "System of Medicine" alone entitled him to the position he held, and Sir John Williams had mastered in all their medical and surgical ramifications the science and art of gynæcology. In offering congratulations to these gentlemen it could not be forgotten that this official recognition of their talents followed the natural selection of the fittest by those best able to judge. It was a noteworthy fact that in the medical profession the State was conspicuous by its absence, except when it created baronets. The medical schools were self-governing institutions, the hospitals were not aided or controlled by County Councils, and the Royal Colleges of Physicians and Surgeons were corporations which were absolutely their own masters. It was a situation which was absolutely unique in the world, and if it could be followed by other professions would be to their advantage. It was a great honour to University College that its medical school claimed all three of their guests, and that in Sir John Erichsen they had a past President of the Royal College of Surgeons, and in Sir Russell Reynolds the actual President of the Royal College of Physicians. Their position had been attained not only by the splendour of their intellect, but by the self-sacrifice of which throughout their careers they had given such abundant proof. Lord Reay then paid a tribute to the memory of the late Sir William Savory, testifying to the good work he had done on the Royal Commission on the University of London.

The toast of the evening was spoken to by Sir Henry

Thompson, who gave some interesting reminiscences, and by Dr. Champneys, who spoke of his associations with Sir John Williams.

Sir JOHN E. ERICHSEN, in responding, expressed the gratification he felt for the reception which had been accorded to him that evening. The distinction which had been conferred upon him by Her Majesty was most gratifying, but there was the proverbial drop of bitter in the cup. "It comes too late." In looking down that long vista of his life which extended from the commencement of his work to the present day, he could truly say that he had ever tried to so shape his work that it might conduce to maintain the honour and dignity of the profession to which he belonged, both in public and in private. If there was one matter more gratifying to him than another it was that the distinction conferred upon him was not a personal one but was conferred through an individual upon the profession. The public at large knew little of the inner life of the profession, of the great intellectual activity of its members, of its splendid achievements in scientific work, of its devotion to duty, and of its self-sacrifice in the cause of charity. These characteristics were common to the humblest as well as the most exalted members of the profession, from the dresser who imperils his life in attending to a patient to the work of Presidents of the Royal Colleges. The debt of gratitude which he owed to University College he could never repay, the opportunities in early life for achieving whatever success he had attained and the formation of many friendships. To be president of University College was one of the highest honours which could befall a professional man, especially when he was the successor of such men as Lord Brougham, Mr. Grote, Lord Belper, and Lord Kimberley.

Sir J. RUSSELL REYNOLDS said that nothing could be more gratifying to any member of the medical profession than that evening had proved to him. He stood between his old master, Sir John Erichsen, who was subsequently his colleague and always his friend, and Sir John Williams, an old pupil, then his colleague and afterwards his friend. Something had lately been said about University College being a favoured one, but it had always enjoyed a large share of University honours, and had been productive of men of distinction not only in the medical but also in the legal professions. In the former he mentioned Sir Joseph Lister and Sir Richard Quain, and in the latter Sir G. Jessel and the present Lord Chancellor. Sir Russell Reynolds then concluded a brilliant little speech by relating a personal anecdote. He was called to see a gentleman, and the next day a friend of his called upon the patient. On the friend inquiring of the butler how the gentleman was, he replied, "Oh, he is much better and quite happy now. He has just seen Sir Joshua Reynolds, the president of the Royal Academy."

Sir JOHN WILLIAMS also responded.

Sir WILLIAM BROADBENT proposed the health of the Chairman, remarking that he did not think any honours bestowed within his recollection had been received with such unanimous goodwill and support on behalf of the profession as those which had been conferred upon their guests.

During the evening Dr. F. Roberts admirably rendered the charming ballad "The Anchor 's Weighed."

THE WOMEN'S FREE HOSPITAL, SOUTHAMPTON.

WE have received the following statement from the Hon. Secretaries of the Southampton Medical Society with a request, as will be seen, for its publication :—

"Certain facts relating to the constitution, management, and work of the above hospital having come to the knowledge of several members of the Southampton Medical Society in the course of their individual practices, and also to the members generally in the ordinary course of the work of the society, which are deemed by them to be of serious public importance, we are instructed by the society to request the Editors of THE LANCET, in the public interest, to publish the following statement of facts :—

"In November, 1889, a few persons met and discussed the subject of starting in Southampton a free hospital for the treatment of the special diseases of women, and a committee of five was appointed and the hospital started at 1, Bellevue-terrace. In June, 1890, it was removed to 17, Ordnance-road, and in June, 1891, to 2, Middle Portland-terrace, and since then the out-patients' department has been removed to a new building in Portland-terrace, where it is now carried on. Professor Lawson Tait was stated to be the consulting surgeon and Mr. Eliot the medical officer. Subsequently the committee announced that Dr. Playfair had consented to act as consulting physician, and had promised his support. The committee, with the hospital thus formed and staffed, in about December, 1891, issued an urgent appeal to the public for support, and in each of the three reports subsequently issued by them a similar appeal is made. This appeal has in some small degree been responded to by public subscriptions and donations.

"Notwithstanding that the hospital is called 'free,' it appears from the reports issued by the committee that patients require letters of recommendation, to be renewed every two months, subscribers of one guinea annually receiving seven letters, those subscribing 10*s.* 6*d.* three letters, and those subscribing 5*s.* one letter. In-patients have to pay the medical officer a sum of two guineas a week and are treated at his private surgical home, which in an extract from a newspaper notice incorporated in an advertisement of the home contained in a local directory is described as a place where 'patience and kindness combined with vast experience and skill can hardly fail to bring about a speedy recovery.' That the committee are responsible for the in-patients as well as the out-patients is shown by the fact that in their published statement of the patients treated they include in-patients. In their first report they state that 'a ward has been efficiently fitted up ..... with all modern appliances for the reception of in-patients'; and they add, 'As soon as funds will permit all such cases will be offered the boon of being admitted for treatment as in-patients at the hospital.' In their second report they state that an arrangement had been made with their medical officer to receive hospital patients at a charge of two guineas a week, payable by the patient, at a house he had taken for his private patients; and the medical officer, in his report to the committee—which was adopted by them and published with their report—stated, 'I am glad to state we can now treat in-patients and out-patients under a different roof.' In his report the medical officer thought right to inform the committee that he had a good staff of nurses thoroughly trained in the special branch of work they were engaged in. This seems to imply a most incredible ignorance on the part of the committee as to matters they should have under their control. In their third report the committee state that 'patients requiring operations have been admitted into beds set apart for hospital patients at 8, Carlton-crescent, according to the arrangement that the committee made with their medical officer last year.' The medical officer, in his report, adopted and published by the committee, states, 'I have admitted cases for operations into 8, Carlton-crescent,' and adds that 'twenty-four abdominal sections have been performed, in addition to other operations.' In a letter from the hon. secretary to the hospital in answer to an inquiry for information, under date July 16th, 1894, he states: 'The in-patients have been treated at Rockstone House' (or 8, Carlton-crescent) 'in the free ward,' and adds the somewhat extraordinary statement, "I am not in a position to answer your question, *not having access to the books.*'

"The reports of the committee contain no statement of the number of patients treated, distinguishing in-patients from out-patients, or any detailed particulars of the operations performed, or the deaths after operation, as is usually given in reports of a like kind. The published accounts are also very meagre, giving no particulars of the sums paid by patients or the cost of in-patients. In their second report the committee state that their medical officer asked for permission to furnish rooms at 2, Middle Portland-terrace (the house used as the hospital) for his private patients, and such permission was given; but although the charity bore the rent and other expenses of the house, no reference is made in the accounts of any sum received from the medical officer for the accommodation thus afforded him.

"Seeing that (1) the committee were taking on themselves the responsibility of very serious operations involving risk of life, and which, if not absolutely necessary, were merely useless mutilations; (2) there was only one medical officer residing in Southampton, the consulting surgeon residing in Birmingham and the consulting physician in London; (3) the hospital is styled 'free,' while letters of recommendation are required and in-patients are expected to pay two guineas

a week; (4) the committee seem not to have any proper control over the in-patients' department: and (5) the absence of rules to govern the hospital, the Medical Society, as representing the profession, felt that a grave responsibility rested on them, and the matter having been formally brought to their notice on Nov. 6th, 1894, in a paper on the subject read before them by Mr. Bullar, it was resolved 'that a copy of Mr. Bullar's paper be sent to each member of the committee of the Women's Free Hospital, and also that information be asked for on the following points: (*a*) the number of in-patients that have been treated, (*b*) the diseases from which they suffered, (*c*) the number and nature of the operations performed, (*d*) the result of the operations, and (*e*) the mortality after operations and general mortality.'

"To this communication the committee of the Women's Free Hospital replied in a letter from their hon. secretary under date of Dec. 5th, 1894, who, while repudiating any obligation to give the Medical Society any information whatever, regretted the insufficiency of their reports in past years, and the committee stated that 24 abdominal sections had been performed in the year 1893 involving 4 deaths, and of these Mr. Tait saw 19 and assisted at 12 of them; but nowhere is there any statement showing that the universal rule in the profession, in hospital practice, not to perform a serious operation involving risk to life, except under urgent necessity, without previous consultation, was followed. Appended to the reply is a statement from the case and operation books of the hospital, giving particulars of the operations performed. From this statement and the reports it appears that in the year 1893, of 215 patients treated at the hospital, 24, or *1 in every 9*, were submitted to abdominal section, whereas from the published reports of other similar special hospitals the ratio appears to be about *1 in 40*.

"The reply of the committee was considered by the society at a meeting on Dec. 20th last, at which twenty-eight members were present, and with one dissentient the following resolutions were passed:—(1) 'That in view of the frequency with which abdominal sections have been performed and advised at the Women's Free Hospital, and of the fact that operations have been performed without previous consultation of a satisfactory kind, the Medical Society feels that it is a matter of grave doubt how far the operations have been justified. The society is also of opinion that the management of the hospital is lax, and that the financial arrangements are most peculiar in a hospital called "Free." The Medical Society therefore feels bound in the public interest to demand that an inquiry into the whole work and management of the hospital be held by an independent and competent committee, as has recently been done in the case of the Chelsea Hospital for Women. The society suggests this as a means whereby further publicity may be avoided. The Medical Society is of opinion that if the work of the hospital has been good an inquiry cannot fail to benefit it, and that if it has been bad the committee of the hospital cannot wish that it should continue. The Medical Society suggests that a committee of three be appointed to hold the inquiry, and that one member be nominated by the Women's Free Hospital and one by the Medical Society, the third being nominated by the other two.' These resolutions were sent to each member of the committee and medical staff of the hospital, together with a letter, on Jan. 7th last.

"Dr. Playfair, in a letter addressed to the committee of the hospital, has stated in reference to the inquiry asked for, 'In my opinion it is one which should be at once carried out. When the work and management of a charitable institution such as yours has been publicly impugned full inquiry should be courted. Nothing could be better for such an institution than a favourable report from a qualified and unbiased committee of investigation. If this proposal is declined, the public will naturally come to the conclusion that there is something it is wished to conceal.' To these resolutions the hon. secretary of the Women's Free Hospital replied on Feb. 2nd last, stating that the committee 'declined to admit the right of the society to interfere in matters relating to the constitution and government of the hospital,' and that 'the Medical Society have no right whatever to demand an investigation of the affairs of the hospital.' He further added that 'the issues involved are far too serious to warrant my committee in agreeing to such a proposal as your society has made, it would not afford them that complete satisfaction which they are anxious to obtain,' and proceeded to state that it was the duty of the society to acquaint the committee with the particulars of the evidence in their possession in support of the charges, and that upon this being done the committee would have a full, impartial, and thorough investigation. He also stated that the committee wished to receive full particulars of the charges, so that they, as the responsible governing body of the hospital, might have an opportunity of investigating them. In the same communication the committee, speaking of their medical officer, state, 'it is perfectly well known that Mr. Eliot is specially skilled in cases of this kind' (i.e., diseases peculiar to women) ..... 'and that his skill as a surgeon is too well known to need any confirmation at their hands.' The society have, however, been unable to ascertain that he has ever made any exceptional study of the subjects of which his committee thus attribute to him a special knowledge, or that he has done anything to differentiate himself from the rank and file of general practitioners in this particular matter.

"The society, feeling that the committee, being the persons responsible for the mismanagement of the hospital (if any), could not bring unbiased and impartial minds to bear on the subject of the charges, instructed us to write on Feb. 7th last declining to furnish the committee with the evidence in the possession of the society, more especially as the committee had already declared that they were 'loth to believe without absolute proof that women could have operations performed on them unnecessarily.' However, in deference to the wishes of the committee, we again repeated the charges in these words: '1. That, having regard to the appalling frequency with which abdominal sections have been performed in the Women's Free Hospital (one in every nine of all patients treated), in some instances without previous consultations of a satisfactory kind, and to the many instances known to our committee in which similar operations were advised, though not performed, and now demonstrated to be unnecessary—which if included would seriously increase the ratio—a grave suspicion arises that some at least of the operations performed cannot be justified. 2. That the management of the hospital is lax. 3. That the financial arrangements are most peculiar in a hospital called "free."

"We again asked if the demand of the society for an inquiry would be complied with, and promised that the society would lay the evidence in their possession before any unbiased tribunal and give every assistance in their power to arrive at the truth. On Feb. 13th last the hon. secretary of the hospital wrote to the society, stating that 'the society having failed to bring any specific charge against the hospital or its medical officers, as requested in the letter referred to' (namely, his letter of Feb. 2nd), 'my committee decline to continue the correspondence until this is done.' In consequence of the committee declining the inquiry proposed, Dr. Playfair has resigned his position as consulting physician to the hospital.

"The inquiry asked for having been refused, the Medical Society feel it their duty, in the public interest, to ask the Editors of THE LANCET to publish this statement of what has occurred, in order to relieve themselves of the responsibility in which silence on a matter of which they have peculiar opportunities of being better informed than the general public would involve them.

"R. D. H. GWILLIM,
"NORMAN ALDRIDGE,
"March 9th, 1895. Hon. Secs., Southampton Medical Society."

We publish the statement of the hon. secretaries of the Southampton Medical Society, agreeing with them that *primâ facie* the matter is one that demands publicity. We have before us a copy of the annual report of the Women's Free Hospital for Treatment of Special Diseases for 1894. This document, it appears to us, contains certain of the particulars whose absence the secretaries of the Southampton Medical Society reprobate. On the other hand, it does not constitute in itself an answer to charges of mismanagement, and that is what the communication from the secretaries of the Southampton Medical Society amounts to.

WORCESTER DISPENSARY PROVIDENT MEDICAL INSTITUTION.—The annual meeting of the supporters of the Worcester Provident Dispensary was held on March 26th, the Rev. W. R. Longhurst being in the chair. The report showed that the total number of names on the books was 9053, being an increase of 100 upon last year's figures. The financial state of the institution was shown in the report to be satisfactory.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On certain localised Outbreaks of Diphtheria at Crofton and Orpington by Dr. S. Monckton Copeman.—The report in question discusses a number of comparatively small and yet very fatal occurrences of diphtheria in the Bromley rural sanitary district, and much of their interest lies in the obscurity attaching to the causation of the disease, and this although all the circumstances of the majority of the cases seemed more than usually accessible. Typical amongst the attacks was one at an old mansion known as Crofton Court, where between February and May five cases occurred with three deaths. There were certain chances of the importation of a definite infection, although none could be absolutely proved. But, admitting such importation, the infection seems to have clung with tenacity to the premises, notwithstanding the adoption of measures of prevention. From this point of view Crofton Court is a place of interest, and it exhibited conditions which can hardly be said to be rare in old country houses to which diphtheria has clung in somewhat the same fashion. The house itself had certain definite sanitary defects, but many of these were remedied on the occurrence of the first case. The site was, however, very damp, water was near the surface, and a cellar exhibited conditions showing that damp air had constant access to the interior of the house. Dampness was also favoured by thick trees, which overshadowed some of the windows and thus excluded sunlight. Then, again, there had prevailed in connexion with these defects a predisposition to sore-throat of an undefined sort amongst the members of the household. And, lastly, there was the difficult question of the possible influence of the offensive carting about of "London manure" in close proximity to the house. Some will find in one or more of these conditions ample to explain the cause itself of diphtheria; others will regard them mainly as favouring the reception of an external infection due to importation and the retention of that infection when once introduced. The various points are discussed at some length by Dr. Copeman, and we could have wished that this report had found a place amongst those which are placed on sale. Incidentally Dr. Copeman found it necessary to deal with the so-called "Bexley system," which has been devised with a view of getting rid of, or at least postponing, the question of drainage and sewerage. He distinctly condemns it. Any system under which cesspools are to be emptied by pumping machinery and tank carts can only be regarded as possessing the elements of efficiency provided the cesspools are really watertight. In the case under discussion they are leaky cesspools, and in a waterlogged soil; they fail to secure the proper disposal of all the liquid refuse, and they perpetuate the waterlogged state of the soil instead of aiming at lowering the high level of subsoil water, which is a distinct drawback to the healthiness of the area here under consideration. Under these circumstances Dr. Copeman advised the Bromley rural authority no longer to delay the construction, in connexion with the Orpington sewer, of a sewerage system to serve the Crofton district.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Pudsey Urban Sanitary District.—Dr. W. Lovell Hunter, in the introduction to his annual report for 1894, gives some excellent advice to the new district council as to their duties and responsibilities under the Public Health Acts, and we trust that this year's report will show that the advice has not been thrown away. The new council have been given a good start, inasmuch as the general death-rate for 1894, which was 14·6 per 1000, was the lowest yet recorded. Dr. Hunter reminds the council that the low death-rate cannot be entirely attributed to local causes, but he considers that there are three sanitary measures which have in particular had their effect—i.e., improved scavenging, prevention of lead poisoning, and a better provision for checking the spread of infectious disease. In the matter of compulsory notification Dr. Hunter, in urging his sanitary authority to adopt the Act, points out that Leeds, the only large town in the West Riding of Yorkshire not previously under the Act, embraced its provisions last year, and that 83 per cent. of the total West Riding population are now under notification. Perhaps the new Pudsey council will see their way shortly to adding their population of 13,900 to the total. Dr. Hunter did not hear of a single case of lead poisoning during 1894, although it appears that the water supplied to the district still retains the power of acting upon lead, as evidenced by analyses of samples drawn in the early morning from a lead pipe 180 feet long. The monthly averages of lead ranged from 0·06 to 0·19 gr. per gallon, the lowest average being in August and the highest in April. The analyses show a very decided improvement on those for 1892, though not in all cases as compared with those for 1893; indeed, in some months the analyses for 1894 show an increase on those for the preceding year. There are in Pudsey few mill chimneys in proportion to its area, but Dr. Hunter reports that frequent complaints as to the smoke nuisance reach him; he points out that a reasonable smoke limit adopted by the council and enforced would soon improve the condition of the town.

West Hartlepool Urban Sanitary District.—Dr. Samuel Gourley reports that during 1894 the general death-rate of his district was 14·6 per 1000 of the population, and the infantile mortality 125 per 1000 registered births. There were in the period under review eleven cases with five deaths from small-pox; not one of the fatal cases showed signs of being vaccinated. Dr. Gourley condemned during the year seventeen carcases on account of extensive tuberculosis, and he considers that in cases such as these, where the butcher has bought the beast in open market, compensation should be allowed. The smoke nuisance could, Dr. Gourley reports, be much reduced by careful stoking, and he thinks that unless proceedings are taken in some of the worst cases there is but little chance of improvement taking place. It is not clear why the sanitary authority are averse to relieving the population of West Hartlepool from this excess of smoke.

Short Heath Urban Sanitary District.—In this district, which contains a population of but 2667, there seems to be considerable difficulty in the matter of isolation accommodation, and Mr. John Hartill, the medical officer of health, proposes that the district shall for the purpose of small-pox hospital accommodation be grouped with others under the Isolation Hospital Act, 1893, while for other infectious disease he advises that six beds be provided in Short Heath. There were 90 cases of small-pox in Short Heath during 1894, the death-rate among the unvaccinated being more than four times greater than among the vaccinated.

Poole Urban and Port Sanitary Districts.—Dr. Herbert Lawton, through his annual report for 1894, impresses upon the inhabitants of his district the fact that it is incumbent upon the householder or nearest relative to notify cases of infectious disease to him, and that their responsibilities in that direction are in no way relieved by the medical certificate. During 1894 it appears that 36 out of 105 cases were not notified by the householder. We are glad to see that Dr. Lawton draws attention to this point. The methods of excrement disposal in Poole proper were, to judge by a report from one of the medical inspectors of the Local Government Board, anything but satisfactory; indeed, the accounts given of the proximity of privy cesspits to dwellings and the soaking of liquid filth up the walls were such as to render changes imperative. We are glad, therefore, to be able to record that the sewage disposal scheme has been begun, and also that during 1894 twenty old privy vaults were filled in. The sanitary condition of the bakehouses and slaughterhouses in Poole is apparently not as it should be, but there is no reference in Dr. Lawton's report as to dairies, cowsheds, and milkshops; no doubt, however, having regard to the importance of this matter both to Bournemouth and Poole, they are well looked after. No case of infectious disease has, Dr. Lawton reports, been notified from any of the vessels frequenting the port, and the health of the seamen has, he states, been satisfactory. In referring to the machinery for cholera prevention, we note that Dr. Lawton speaks of a "quarantine" station. It would, perhaps, be as well in speaking of cholera to avoid this word and to use the terms of the Cholera Order.

Chelmsford Rural Sanitary District.—The defunct Chelmsford rural sanitary authority now replaced by the rural district council may, as Dr. Thresh observes, look back upon their work with satisfaction; and we will add that if the new council carry on the work of progress initiated by their predecessors their district will soon be one of the best-equipped rural areas in the county. Dr. Thresh's reports are always cheerful reading because those portions

of them having reference to sanitary improvements bear signs of steady progress. For instance, in the report now before us, that for 1894, we read under the head of improvements effected during the year of a new water-supply for Woodham Ferris, Retterdon, East Hanningford, and Runwell; of the provision of an isolation hospital after the plans of the Local Government Board, in which, by the way, the families of labourers will be admitted free of charge; and of the adoption of new and important by-laws. Under the head of improvements contemplated we read of schemes already far advanced for fresh water-supplies and the provision of a disinfecting apparatus. It seems, too, that the sanitary authority has recently obtained by-laws applicable to all the more populous parishes with respect to the offensive trades enumerated in the Public Health Act. We notice with regret that the Essex County Council is not very energetic in public health matters. For instance, in referring to some houses which are a danger to the public in consequence of their dilapidated condition, Dr. Thresh observes: "Our clerk having ruled that it is the duty of the county council to deal with such dangerous structures, nothing will probably be done until someone is injured"; and, again, in discussing the effluent of sewage farms: "If the county council paid any attention to the condition of our rivers, doubtless they would insist upon a higher standard being reached." In dealing with the prevalence of infectious disease Dr. Thresh refers to the manner in which the practice of medical men differs in regard to cases of an infectious character; in some cases he (Dr. Thresh) finds every precaution taken, in others but few. More especially is the absence of precautions discoverable in slight cases of diphtheria. Dr. Thresh observes as to this that if a case is sufficiently suspicious to warrant notification it is sufficiently serious to necessitate the most complete isolation possible under the circumstances.

Wimbledon Urban Sanitary District.—The general death-rate for this district for 1894 was, Mr. Evelyn Pocklington tells us, the lowest during the last eighteen years—i.e., 10·3 per 1000. In a case where the mother of two children suffering from scarlet fever neglected to duly notify the medical officer of health the bench inflicted a fine of 10*s.* for each case. Mr. Pocklington reports that considerable discontent has been evinced during the year owing to the unsatisfactory state of the fever hospital, and he insists upon the importance of erecting a more suitable building. New by-laws in regard to pig-sticking have recently been adopted, and their enforcement has resulted in considerable benefit. Mr. Pocklington thinks, however, that in certain parts of his district the prohibitive distance of pigsties from dwellings should be 150 ft. instead of, as at present, 100 ft.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6693 births and 5635 deaths were registered during the week ending March 23rd. The annual rate of mortality in these towns, which had been 35·0 and 32·2 per 1000 in the two preceding weeks, further declined last week to 27·7. In London the rate was equal to 26·0 per 1000, while it averaged 29·0 in the thirty-two provincial towns. The lowest rates in these towns were 18·9 in Birkenhead, 19·9 in Swansea, 20·6 in Halifax, and 20·7 in West Ham and in Nottingham; the highest rates were 36·4 in Blackburn, 36·5 in Manchester, 37·1 in Wolverhampton, 38·1 in Oldham, and 47·5 in Brighton. The 5635 deaths included 314 which were referred to the principal zymotic diseases, against 338 and 302 in the two preceding weeks; of these, 100 resulted from whooping-cough, 72 from measles, 50 from diphtheria, 39 from diarrhœa, 29 from scarlet fever, 22 from "fever" (principally enteric), and 2 from small-pox. No death from any of these diseases was recorded last week in Huddersfield or in Halifax; in the other towns they caused the lowest death-rates in Bristol and Portsmouth; and the highest rates in Wolverhampton, Bolton, Manchester, Blackburn, and Newcastle-upon-Tyne. The greatest mortality from measles occurred in Brighton, Plymouth, Bolton, Manchester, and Sheffield; from scarlet fever in Wolverhampton; and from whooping-cough in Norwich, Leicester, Blackburn, and Newcastle-upon-Tyne. The mortality from "fever" showed no marked excess in any of the large towns. The 50 deaths from diphtheria included 24 in London, 5 in Leeds, 4 in Birmingham, 3 in Manchester, and 3 in West Ham. One fatal case of small-pox was registered in Derby and one in Liverpool, but not one in London or in any other of the thirty-three large towns. There were 58 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, March 23rd, against 68, 56, and 57 at the end of the three preceding weeks; 14 new cases were admitted during the week, against 8 and 12 in the two preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1587, against 1621, 1619, and 1615 on the three preceding Saturdays; 184 new cases were admitted during the week, against 143, 141, and 133 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 1448, 1366, and 1031 in the three preceding weeks, further declined to 740 last week, but were 254 above the corrected average. The causes of 74, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Bradford, Leeds, Sunderland, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Hull, and Newcastle-upon-Tyne.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the three preceding weeks from 42·8 to 35·1 per 1000, further fell to 31·2 during the week ending March 23rd, but exceeded by 3·5 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 25·1 in Greenock and 27·2 in Aberdeen, to 40·9 in Edinburgh and 42·0 in Leith. The 900 deaths in these towns included 56 which were referred to measles, 27 to whooping-cough, 17 to diarrhœa, 9 to diphtheria, 5 to scarlet fever, 1 to "fever," and not one to small-pox. In all, 115 deaths resulted from these principal zymotic diseases, against 144 and 110 in the two preceding weeks. These 115 deaths were equal to an annual rate of 4·0 per 1000, which was 2·5 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 72 and 48 in the two preceding weeks, rose again to 56 last week, of which 19 occurred in Edinburgh, 17 in Leith, 9 in Glasgow, and 9 in Aberdeen. The deaths referred to whooping-cough, which had been 39 and 22 in the two preceding weeks, increased to 27 last week, and included 17 in Glasgow, 3 in Aberdeen, and 3 in Leith. The 9 fatal cases of diphtheria exceeded those recorded in any recent week, and included 6 in Glasgow. The deaths from scarlet fever, which had been 6 and 10 in the two preceding weeks, declined again to 5 last week, of which 3 occurred in Glasgow and 2 in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 544 to 385 in the three preceding weeks, further fell to 313 last week, but were nearly three times the number recorded in the corresponding week of last year. The causes of 48, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 48·8 and 42·4 per 1000 in the two preceding weeks, rose again to 45·0 during the week ending March 23rd. During the past twelve weeks of the current quarter the death-rate in the city has averaged 36·1 per 1000, against 26·4 in London and 31·1 in Edinburgh. The 302 deaths registered in Dublin during the week under notice showed an increase of 18 upon the number in the previous week, and included 7 which were referred to the principal zymotic diseases, against 14 and 9 in the two preceding weeks; of these, 5 resulted from small-pox and 2 from "fever," but not one either from measles, scarlet fever, diphtheria, whooping-cough, or diarrhœa. These 7 deaths were equal to an annual rate of 1·0 per 1000, the zymotic death-rate during the same period being 1·4 in London and 5·3 in Edinburgh. The fatal cases of small-pox, which had been 4, 5, and 4 in the three preceding weeks, were 5 last week. Since the commencement of the current year no fewer than 77 deaths from small-pox have been recorded in Dublin. The 302 deaths registered in Dublin last week included 39 of infants under one year of age and 102 of persons aged upwards of sixty years; the deaths both of infants and of elderly

persons exceeded those recorded in the preceding week. Four inquest cases and 4 deaths from violence were registered; and 74, or nearly a fourth, of the deaths occurred in public institutions. The causes of 20, or nearly 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-COLONEL W. S. M. PRICE, A.M.S., will succeed Surgeon-Colonel A. F. Churchill, M.D., as Principal Medical Officer at Woolwich next month.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are notified:—Surgeon-Lieutenant-Colonel A. Scott Reid (Bengal), Medical Officer, 2nd Battalion, 4th Gurkha (Rifle) Regiment, to officiate as Civil Surgeon at Quetta until further orders; Surgeon-Lieutenant-Colonel J. Duke (Bengal), Medical Officer, Malwa Bhil Corps and of the Bhopawar Political Agency, to officiate as Residency Surgeon in Kashmir until further orders; Surgeon-Major R. J. Baker (Bombay), Residency Surgeon and *ex-officio* Assistant to the Political Resident in Turkish Arabia on return from leave to officiate as Medical Officer of the Malwa Bhil Corps and of the Bhopawar Political Agency until further orders; Surgeon-Captain R. H. Castor to be Civil Surgeon, Akyab, vice Surgeon-Captain Evans, transferred; Surgeon-Lieutenant Burnett to officiate in Medical Charge of the 26th Bombay Infantry until further orders; Surgeon-Lieutenant-Colonel Quill to the Medical Charge of the Station Hospital, Mhow, vice Brigade-Surgeon-Lieutenant-Colonel Moore, on leave on medical certificate; Surgeon-Major Hill to the Medical charge of the Station Hospital, Kirkee, vice Quill; Surgeon-Major Croly to the Medical Charge of the Station Hospital, Satara vice Surgeon-Major Hill; Surgeon-Major Drury to the Medical Charge of the Station Hospital, Kamptee, vice Croly. Surgeon-Major-General William Roche Rice, C.S.I., Surgeon-General and Sanitary Commissioner with the Government of India, retires from the service.

NAVAL MEDICAL SERVICE.

Staff-Surgeon William Edwards Breton, M.D., has been promoted to the rank of Fleet-Surgeon in Her Majesty's Fleet.

The following appointments are notified:—Fleet-Surgeons: W. H. Stewart to Portsmouth Dockyard; George B. Murray to the Plymouth Division, Royal Marines; John Tyndall to the Haslar Hospital; Anthony Gorham to the *Royal Sovereign*; Thomas C. Hickey to the *Empress of India*; Alfred T. Corrie to the *Resolution*; E. R. H. Pollard to the *Excellent*; James L. Sweetnam to Sheerness Yard; and H. A. W. Richardson to the *Repulse*.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant A. R. Chater resigns his commission.

VOLUNTEER CORPS.

Artillery: 2nd Devonshire (Western Division, Royal Artillery): William Phayre Ryall, formerly Surgeon-Lieutenant, Army Medical Staff, to be Captain. *Rifle:* 2nd Volunteer Battalion, the Durham Light Infantry: Joseph Atkinson, Gent., to be Surgeon-Lieutenant.

THE SANITARY STATE OF BARRACKS.

We hear from time to time reports about the insanitary condition of our barracks and of the occasional outbreak of disease attributable to leaky drains. There is no doubt that many of our barrack buildings, especially in Ireland, are old, badly constructed, and badly drained. Quite recently Lord Stanley complained of the state of some of the London barracks, and notably of the Tower and Wellington Barracks. Mr. Campbell-Bannerman, who has of late assumed a humorous and even jocular tone in discussing Army matters, when recently discussing the Army Estimates said that if there was anything which he had served an apprenticeship to it was drains! The state of the drains in London barracks was a trifle, he declared, compared with that of his rooms at the Chief Secretary's Lodge, when he had the honour of being chief secretary to the Lord-Lieutenant of Ireland. He did not deny, however, that the drains at the Tower were imperfect. The reconstructions which had taken place, although excellent in plan and design, had not been so perfectly carried out as they might have been. The main drains had been well laid, but the connexions were very defective and the defects would have to be remedied, and he gave an assurance to the House that the work would not be passed until it was approved by a competent sanitary engineer. As regards the Wellington Barracks, the War Minister stated that they were old barracks, and one could never be sure about the drainage of old barracks or old mansions; but he did not admit that the state of those barracks in this respect was bad; the health of the officers and men occupying them had been excellent. Apart from the skill and knowledge of the Royal Engineers the War Office had the services of an excellent and highly trained civilian sanitary expert. The subject of drainage is one about which most of us in civil life also have had some experience, and not always a happy experience. In the majority of instances defects and failure are not usually attributable to faulty plan and design, but to sins and defects of execution, in construction, work, and detail.

ARMY RECRUITING.

The Vicar of Old Ford in the east end of London has addressed a communication to the Chief Recruiting Staff Officer, St. George's Barracks, in reply to that officer's circular letter about obtaining good recruits for the army. The Vicar advocates a method which, in his opinion, would tend to remedy the deficiency of recruits and diminish the ranks of the unemployed, and lessen juvenile crime at the same time. Speaking from long experience he says that thousands of Board School children can obtain no employment when they leave their schools, and as the State and philanthropy have already to pay for their education and largely for their food and raiment, he would have the State adopt all unemployed boys of fourteen years of age and send them to large rural military camps or training ships, with the view of bringing them up to become our future soldiers and sailors. We have previously adverted to this proposal. There is no doubt that an enormous amount of good might be done in this direction among the ill-clad, ill-fed boys at present idling about our streets in want of employment, and the suggestion of turning this material to account for the benefit of the nation and of the boys themselves seems to us well worthy of consideration.

Whilst on the subject of recruiting we may here regretfully allude to the intelligence received of the death from cholera at Bangkok, Siam, of General the Hon. W. H. Fielding, who lately filled the post of Inspector-General of Recruiting at the Horse Guards.

REFRIGERATED BEEF.

Lieutenant-Colonel W. H. Allsopp, writing to the *United Service Gazette* referring to the 1895 edition of the "Manual of Military Cooking," expresses his surprise that refrigerated beef is now accepted for army service during ten months of the year, including June and July. He has been taught to believe, he says, that though this meat is mostly of excellent quality, yet through the action of the atmosphere in the summer months it is frequently bad on the surface, and is not suitable for the troops during the hot weather.

DEATHS IN THE SERVICES.

Surgeon Edward Alan Rogers, R.N., M.R.C.S., L.R.C.P. Lond., on the 4th inst., at the Royal Naval Hospital, Stonehouse. The deceased officer had been suffering from influenza.

Surgeon-Major Coates, M.D., late of the 26th Regiment, died on the 15th inst. at Summer Villa, Hythe, Kent, in his 69th year. The late officer entered the service in 1850, became Surgeon in 1856, Surgeon-Major in 1869, and after serving at Gibraltar retired on half-pay in October, 1881. He was also for some time medical officer to the School of Musketry at Hythe.

Surgeon-Lieutenant-Colonel W. L. Gubbins, acting for Brigade-Surgeon-Lieutenant-Colonel W. Taylor—on special employment in China—is confirmed in the appointment at the Headquarters of the Medical Department. Brigade-Surgeon-Lieutenant-Colonel Taylor will shortly be gazetted to the vacancy created by Surgeon-Colonel Gore's advancement.

Correspondence.

"Audi alteram partem."

"PLEURITIC EFFUSION WITH NEGATIVE PRESSURE IN THE PLEURA."

To the Editors of THE LANCET.

SIRS,—A considerable pleuritic effusion with a negative pressure in the pleura of four and a half inches of water which I described as "almost inexplicable" Dr. G. A. Sutherland apparently regards as nothing remarkable, and, indeed, easily explained. For the explanation he refers to the well-known fact that the pressure in a healthy pleural cavity is negative, and that the cause of the negative pressure is the elastic tension of the lung. He is very unfair to the teaching of the present day, and indeed to that of many years past, when he asserts that these elementary facts are not taught, or, as he seems to imply, are not even known to most of those who teach. He himself, however, fails to realise that the conditions in a pleura containing fluid are very different from those of health: that as the fluid increases in amount the negative pressure does not remain constant, but rapidly diminishes, until when the fluid has reached a certain size the pressure ceases to be negative and becomes *nil*, afterwards to become positive if the effusion still further increases; so that his explanation as applied to the case under consideration is not only no explanation, but is actually erroneous. The subject of pleural pressure has for some years been a favourite study of mine, and the more I see of it the more I find it full of difficulties. A few of these difficulties, with suggested explanations of some of them, he will find referred to in my Bradshawe Lecture on Pneumothorax for the year 1887. This, of course, he has not read, or he would not have suggested that I at any rate was ignorant of the elementary facts he speaks of. What we require is not a theory into which all facts must fit, whether they will or not, but clinical observations such as that I have recorded, by which any current theory may be tested, and upon which, if one theory be discredited, another may be built. Having a large number of such clinical facts at my command, and speaking from the experience of some years, I can only say that such a condition of things as a negative pressure of four and a half inches of water with a considerable and increasing effusion is of the greatest possible rarity. Whether the fact deserves to be on that account described as "almost inexplicable" is a matter of opinion. If Dr. Sutherland has other facts of a similar kind he would be doing science a service in bringing them forward, especially if he would, at the same time, provide a really satisfactory explanation of them.

I am, Sirs, yours faithfully,

Wimpole-street, W. March 25th, 1895. SAMUEL WEST.

"PROVISION FOR YOUNG IMBECILES."

To the Editors of THE LANCET.

SIRS,—Your report in THE LANCET of March 23rd of what recently passed at the meeting of the Lancashire Asylums Board with regard to Poor-law provision for young imbeciles gives rise to the hope that something will at length be done in that populous county for this class in addition to the limited and fundamentally eleemosynary provision at the Royal Albert Asylum. But the question is one of considerable urgency in other counties than Lancashire—perhaps of greater urgency where there is not at hand an institution such as that just named. With the exception of that in the metropolitan district and the county of Northampton there is at present no specific provision in this country for the training of young pauper imbeciles at the cost of the rates. The counties of Middlesex, and I believe also Essex and Hants, are moving in the matter; but what is there to prevent the other counties of England and Wales from setting up, either separately or in combination, training institutions for improvable imbeciles? The Lunacy Act of 1890 gives power to any local authority, either alone or in combination with any similar authority, to provide separate asylums "for idiots, or patients suffering from any particular class of mental disorders"; and under this section (which it is to be regretted is optional and not compulsory) there need be no difficulty in doing throughout the kingdom all that is necessary for imbeciles, and even for epileptics whose mental condition requires care. The further question of custodial provision for adult imbeciles, apart from lunatics, such as has been organised in the metropolitan district, is an after consideration; but the proper training of juvenile imbeciles would lessen the necessity for this provision, while its neglect is detrimental not only to the imbeciles themselves but to society at large. There is no doubt that the defective child if left to its own devices in too many cases becomes the delinquent man, and from the economical point of view judicious outlay for training would save expense in the end. The experience of the voluntary institutions is quite encouraging enough to justify this view, apart from the benevolent aspirations of Christian charity. If we measure ourselves by the standard of our Transatlantic cousins we shall find that we are considerably behind them in this matter. In America no less than seventeen States have established institutions for the "feeble-minded," their legislatures having voted "appropriations" for the purpose, in addition to several charitable foundations; and in these, and a few private schools no less than 6315 pupils are under training. If it be objected that America is a rich country we may turn to a comparatively poor one like Norway, where we shall find that three considerable institutions are maintained mainly by national funds. Is it too much to expect that England should also do her duty to her imbecile children?

I am, Sirs, yours faithfully,

G. E. SHUTTLEWORTH,
late Medical Superintendent, Royal Albert Asylum.

Richmond Hill, March 26th, 1895.

ROYAL MEDICAL BENEVOLENT COLLEGE.

To the Editors of THE LANCET.

SIRS,—You have taken such a warm and generous interest in the scheme for augmenting the annuities of the pensioners of Epsom College that I hasten to inform you that, in consequence of most generous assistance received under the will of the late Dr. Bowen of Melbourne, the council hope to be able to arrange that on and after July 1st the annuities of all non-resident pensioners will be raised to £30 per annum. To make this step actually secure in the future the council must impress upon the governors the necessity for continued and generous support. I may mention that the dividends accruing from your gift of £1000 have been continuously used to augment the annuities of existing pensioners.

The dinner this year will be held at the Queen's Hall, Langham-place, on Wednesday, May 15th, the Right Honourable A. J. Balfour, M.P., in the chair. I trust we may have the pleasure of including your names amongst the list of stewards, and we shall be glad to receive the names of any supporters of the College who will aid us at this festival.

I am, Sirs, yours faithfully,

C. HOLMAN, M.D., Treasurer.

37, Soho-square, W., March 25th, 1895.

"DEPRIVATION OF DEGREES."

To the Editors of THE LANCET.

SIRS,—In reference to the annotation in THE LANCET of March 23rd on "Deprivation of Degrees" by universities it may be of interest to state that the power referred to was not overlooked in the Charter of the University of Wales, issued in 1893. The 13th section of Article 14 provides that: "The [university] court may revoke the degree or degrees of any graduate of the university who shall be convicted within our United Kingdom or its dependencies of felony or of any indictable misdemeanour, and may restore on cause being shown any person whose degree has been revoked to the degree he previously enjoyed or to any lower degree in the same faculty without further examination."

I am, Sirs, yours faithfully,

March 23rd, 1895. ISAMBARD OWEN.

"PARLIAMENT AND PRISON REFORM."

To the Editors of THE LANCET.

SIRS,—I think most of us who are interested in prison management are agreed that it is the aim of county councils to secure the government of prisons, as the magistrates had of yore; and, further, that the articles which appeared a short time back in a daily newspaper were written to attain this end. For my own part I suspect that the lengthy statement of your correspondent in THE LANCET of March 9th is

written for the same purpose. If this is so, his three columns of attack on the present administration of our prisons should be of no value; at any rate, your correspondent should be satisfied with the reply he has obtained from Dr. Quinton, of Wandsworth Prison. Dr. Quinton's very able letter points out the objections to your correspondent's charges of mal-administration, and it does so in a temperate manner, although it is evident that Dr. Quinton places little value on the credibility of this would-be prison reformer. It is so easy to raise an unwarranted scare on the question of treatment of our prisoners. Perhaps this is natural, they being shut out from the gaze of the public by high walls. But it does not seem right that public feeling should be so constantly harrowed by the public press as it has been of late. Any amount of what should be done for the reformation, &c., of prisoners can be said or written, but I believe, and I have had ten years of acquaintance with the criminal, that more is to be done towards lessening year by year the criminal population by outside work. Children born of criminal parents, and living in a thieves' locality, must almost of necessity become criminals, and it would seem that good, steady outside influences are at work if we portion out the late years' decrease in the prison population. Only a few points in your correspondent's statements, of which Dr. Quinton does not treat, I would touch upon—one, that if the dietary of prisoners is much improved the shorter sentences for local prisons will have to be increased in order to make prison life at all deterrent. As it is many men prefer to be in a prison than in a workhouse. That for a serious offence a flogging is by far a better punishment than a dietary one. It does not reduce the strength of the prisoner, and besides—a very important fact—it very greatly tends, at any rate for some months, to keep order in the prison.

It is not always remembered by writers that the inmates of a prison are largely made up of the scum of our population, ready for any disturbance if the government is lax, and lax prison management is not a kindness nor is it safe. Some years ago in my gaol in a fortnight four prisoners pretended to hang themselves in order to escape work. In each case as medical officer I informed the governor (now dead) that I believed that the prisoner was humbugging. Now, if he had sharply punished the first, at any rate the second, prisoner, the other cases would not have occurred, and a pretence at hanging may easily become a reality, therefore the practice is more serious than one of simply trying to get off work. When the fourth case occurred my medical treatment at resuscitation (the prisoner had nearly hanged himself beyond all earthly help) was such that there were no further pretences at hanging. But it was not my business to carry medical treatment to such an extent that it became a punishment, but it seemed a necessity, and I have always felt that the result justified me. Doubtless there would be great reason to feel that local prison life led to insanity if the whole two years of cellular imprisonment was the strict rule. But in no prisons do I expect is the strict letter of the law carried out. Hardly a prisoner is daily kept to his cell after the first year of a two years' sentence, although it is difficult in local prisons to find them work outside. The present Prison Commission, it may be hoped, will recommend a change of the law on this point. Your correspondent says "Punishment means solitary confinement in dark cells." He does not know that dark cells have been given up for many years. I remember taking a prison surgeon's work for some weeks at the time when country magistrates managed our prisons. Then three days in a dark cell was not an uncommon punishment. Your correspondent's "bureaucratic" Prison Commissioners have done away with the dark cell. He may be glad to know this.

I am, Sirs, yours faithfully,

Canterbury, March 23rd, 1895. PUGIN THORNTON.

THE LATE LOUIS FLORENTIN CALMEIL.

To the Editors of THE LANCET.

SIRS,—In the admirably full and appreciative obituary notice of the famous alienist Calmeil, written by your Paris correspondent and published in THE LANCET of March 23rd, there is one point as to which it may not be out of place to say a word. Whilst vieing with others to do honour to the memory of this great observer and worker we may rightly be careful lest, by inadvertence, we do injustice to another equally distinguished *savant*. In the latter part of the notice it is said—and all will agree—that Calmeil's "name will for ever remain associated with the disease, general paralysis of the insane." But it is added that this disease "he succeeded in establishing as a clinical and pathological entity." He, indeed, gave to the motor aspect precisely the name which, transferred to the disease in its entirety, has perhaps survived more than has any other of the numerous names which have been applied to the disease. And on the basis of the quotations made at the beginning of the notice (if we accepted them) the latter part of the above statement would hold good. Nevertheless, it is the fact that the work of establishing that which was subsequently known as "general paralysis" as a clinical and pathological entity (as so many have held it to be) was first accomplished by Bayle. In my work on the subject, after mentioning the partial clinical descriptions of some previous observers, I briefly referred to the relative position of Bayle and Calmeil in the discovery of "general paralysis," and in the following words: "The discovery was completed by Bayle (1822, 1825, 1826), who gave the first full account of the affection, and who was closely followed by Calmeil (1826) in this investigation." Here Bayle's three contributions are taken as a connected series, constituting the first full account. It would trench far too much on your space and my time to add here proofs for the words just cited. Looking at the state of medical knowledge in general and of that of mental disease in particular at the time, and the early age (twenty-eight) at which he published the book, one must deeply feel very great admiration for the clinical acumen and pathological knowledge shown by Calmeil in his early work on this subject.—I am, Sirs, yours faithfully,

W. JULIUS MICKLE.

Grove Hall Asylum, London, March 25th, 1895.

"COLOUR VISION AND ACCIDENTS."

To the Editors of THE LANCET.

SIRS,—In reply to Dr. Gowers' question in your issue of March 2nd, "Has any accident been brought home to defect in colour vision?" will you allow me to call attention to several instances showing positive evidence on this point quoted by Dr. Edridge Green in his book on "Colour Blindness" (p. 224 *et seq.*)? He states that "there are many accidents in which the cause has been definitely proved to be colour blindness," and refers to the following cases in point.

1. A colour-blind man, who stated that his steamboat had collided with and sunk a steamboat on account of his inability to distinguish the signal lights.[1] 2. The case of the pilot of the steamer *City of Austria*, which was lost in the harbour of Fernandia, Florida, in April, 1881. He was proved to be colour-blind, "and it would appear that he mistook the buoys, and his mistake cost the owners $200,000."[2] 3. Related by Dr. Joy Jeffries. An accident between Helsingfors and Tavastchus, July, 1876. "It was caused by a colour-blind switch-tender showing a green instead of a red light to the approaching train." 4. A railway collision due, according to his mate, to the colour blindness of an engine driver.[3] 5. A railway collision in consequence of a train over-running a signal. The driver was colour-blind and "believed that his sight was the cause of the accident."[4] 6. A railway accident due to the engine driver's inability to distinguish the red light.[5] The last case was one of acquired colour defect, and Case 2 was diagnosed as one of tobacco amblyopia.

Captain Abney, in his recently published Tyndall Lectures on Colour Vision, says (p. 167), with regard to the loss of life owing to colour blindness: "The evidence is, as a rule, merely negative, though there are cases extant where great losses which have occurred can be traced to a deficiency in colour perception." The cases quoted prove, I think, that there is positive evidence of the disastrous results which may arise from defects for colours. Possibly there are degrees of deficient colour perception quite compatible with safety in those whose duty requires them to recognise coloured signals, but where the boundary between "safe" and "dangerous" lies must be a most difficult problem to solve.

I am, Sirs, yours faithfully,

Ipswich, March 26th, 1895. WALTER W. SINCLAIR, M.B.

[1] Brit. Med. Jour., Jan. 28th, 1888.
[2] Quoted by Mr. Bickerton: Shipping and Mercantile Gazette and Lloyd's List, June 29th, 1881.
[3] Invention, Dec. 28th, 1889. [4] Engineer, Dec. 6th, 1889.
[5] Mr. Haynes Walton, in the Times, Jan. 3rd, 1877.

"THE LONDON AND MANCHESTER INDUSTRIAL ASSURANCE COMPANY, LIMITED."

To the Editors of THE LANCET.

SIRS,—Our attention having been called to an article in your issue of the 23rd inst. concerning this company, we beg that you will be good enough to insert this response in your next issue. We emphatically deny your allegation that we "make profits out of the sweating of medical men who voluntarily sell themselves into bondage," for we sweat no one, and there are no professional men less fettered than those who attend our policy-holders in time of sickness. "Provident dispensaries," you say, "are all very well, being in the nature of charity," but we are endeavouring, and for no unworthy or sordid motives, for our shareholders derive no pecuniary benefit from our medical aid branch, to do something for those in whose ears the word "charity" in such a matter is synonymous with degradation and reproach, and to inculcate self-help, self-respect, and thrift in others. This scarcely deserves the appellation of "touting," as some understand the meaning of the word. Our members are, in fact, very largely composed of those who would have, did not the company collect their contributions in a small weekly sum, to seek hospital or dispensary advice, or failing that run up doctors' bills which their meagre incomes would never, unfortunately, permit them to pay. How often one hears it said that medical men are the first that people think of calling in, and the last they think of paying! The fact is, however, that in nearly every instance it is inability and not indisposition to pay. Such persons and the medical profession at the same time are assisted by this company's system. On the question of payment to our medical officers we have no hesitation in saying that they are as well remunerated by us as by their private practice amongst the same class of people. Our payments to them are higher than they appear on the surface, because we pay for all members on the quarterly lists supplied (in advance) by us, whether the members continue paying or lapse out during the quarter, as many do from one cause and another, and in which latter event they cannot apply for medical attendance. We claim, and most justly, that this company, far from doing a pecuniary injury to the medical profession, assists it very much indeed.

I am, Sirs, yours faithfully,
W. WOODWARD.
Managing Director, London and Manchester Industrial Assurance Company, Limited.
Southwark Exchange, London, S.E., March 27th, 1895.

To the Editors of THE LANCET.

SIRS,—Your annotation on the above in your last issue points out most clearly the nature of this commercial undertaking and medical sweating, and it ought to be the means of dispersing the array of medical men's names from the list which the touters for this company pride themselves upon when pestering the patients of other medical men when already in attendance. Let insurance companies canvass for their own legitimate business, but not for medical attendance and medicine. It may be all very well for young practitioners to work for literally nothing in order to get patients; but their association with this company does incalculable injury to their fellow-practitioners and spoils the public. I know of a case of a man in receipt of at least £3 per week owing his medical attendant a small bill for fees proportionate to his earnings, and when payment was sought was informed that he had joined the above company. This is simply disgraceful. In your annotation you say, "Provident dispensaries are all very well, being in the nature of charity." All are agreed upon that, but let them be properly organised and fairly conducted. Should charitable dispensaries conduct provident work (semi-charity) with a restricted medical staff? Ought not a provident dispensary be a self-supporting institution, open to all medical men residing in the neighbourhood to take a part? Abuses such as these require the remedy—viz., the staunch and deliberate action of individual members of the profession to safeguard their interests which are at stake and dissociate themselves from that which is an evil in our midst.

I am, Sirs, yours faithfully,
March 27th, 1895. INQUIRER.

To the Editors of THE LANCET.

SIRS,—I fear that "A General Practitioner" is not fully aware of the power of the so-called medical aid societies or of the way the medical profession is getting entangled in the meshes of their ever-spreading net. The lower middle and working class practices in most towns, it seems to me, are gradually being absorbed by those societies. In this town almost every man, woman, and child belongs to one or another of them. The fees collected are ½*d.* per week under twelve years of age and 1*d.* over that age, of which 25 per cent. is retained by the society. One or two points must be considered. The societies have obtained so much influence that it is a necessity to allow one's name to be on the list of medical officers or lose the publicity which others enjoy. Again, it is absolutely necessary under existing conditions for some men in the place to undertake the work, or the experiences of the Cork practitioners would be repeated. Could these societies be stopped the congested state of the profession would be much relieved, as so many more men could get a comfortable living among the same number of inhabitants were the fees reasonable. A less drastic method would be to insist on the clubs revising their fees, and charging at least 3*d.* a week per member. Compared with the present remuneration offered by these clubs, the fees of 1*s.* and 1*s.* 6*d.* condemned by the South-West London Medical Society would be generous, for twenty consultations a day at 1*s* 6*d.* would exceed £545 a year, even admitting that none of the patients could afford more. At the present rates, to get the same income (allowing two children to one adult) it would require over 5000 members, and I leave it to those who have experience in this class of work to decide which sort of practice would be the more lucrative. It is difficult to suggest a remedy, but I believe that if men who unwillingly hold these cheap clubs would keep a strict account of one year's work and publish it, with the remuneration received, and point out to the public the absurdity of expecting conscientious treatment and necessary drugs for the price, the evil would remedy itself.

I am, Sirs, yours faithfully,
March 27th, 1895. AN UNWILLING CLUB DOCTOR.

To the Editors of THE LANCET.

SIRS,—As one of the medical men attached to the London and Manchester Industrial Assurance Company I was shocked to read the letters in THE LANCET of March 23rd, along with your annotation commenting on the subject. Some months ago I was approached by representatives of this company with a request that I should become one of their medical referees. This I lightly undertook, the more so on seeing well-known names with high medical qualifications on the list they supplied. Some of those had for twenty years done the work, so it was reasonable to presume that the company's methods were beyond reproach. Their agents assured me that there was no desire to push the medical side of the business, but on the contrary, they would rather be without it, and that no touting of the patients of other medical men took place; in fact, that assurance work was what was desired, and the persons assured were themselves the applicants for entrance into the medical department. Of late I have not been satisfied that such is the case. Patients have come for advice &c. who were quite able to pay a reasonable fee, and such I have refused to treat as members. I have now sent in my resignation as one of the so-called medical referees, and I am sure that such will be the course adopted by many who like myself now find that touting has been carried on without their sanction. I am, Sirs, yours faithfully,
March 23rd, 1895. NEMO.

"THE TITLE OF 'DOCTOR.'"

To the Editors of THE LANCET.

SIRS,—I see that you have once more opened your columns to this chronic discussion, and have allowed Dr. Black to write fully from his point of view. Therefore I presume you do not bar the other side of the question. I have repeatedly applied to the Royal College of Physicians of Edinburgh on this matter, and have always received the reply that my legal title as Licentiate was that of "Physician," and that, while disapproving, the College could not disallow the Members and Licentiates using the title "Doctor" if they chose to do so. In effect, the title of "Doctor" as applied to medical men is a courtesy title, given by custom, and adopted in consequence of custom. If it be true that it is a courtesy title then those who withhold it on technical grounds are not courteous. I believe that legally a Licentiate of a medical

college has quite as much right to use the title "Doctor" as a layman has to use that of "Mr.," and much more than that of "Esquire," which, strictly speaking, should be reserved to a distinct class. The matter, then, is practically one of "taste," not of "law," and "de gustibus non est disputandum." Underlying this petty and trivial squabble as to little dignities of title is, however, a matter of more importance; in fact, the only important thing to my mind in the question at all. It is an index of the miserable jealousy and throat-cutting spirit which permeates the profession. Twenty qualifying bodies carry on a "battle of the shops," some of them actually puffing their degrees as superior articles to diplomas. Who can wonder that with so arrogant an *alma mater* the often half-educated graduate starts in life with an exaggerated idea of his own importance as a "university man" and complains bitterly of any practitioner who styles himself "Dr.," in fear that his brand-new "brass" M.D. should not look large enough by comparison?

If all M.D.'s were university men in the true sense, if they had graduated in arts instead of passing a very ordinary preliminary, if their science training had been very much wider and deeper than ours, we might allow them some distinction besides that of putting their university degrees after their names, and where they came from. But, Sirs, we know very well it is not so; we know that the medical section of a university is often merely a medical school, with which our great teaching hospital schools of London would in many respects compare favourably. The difference is this, that by schools being affiliated to a university degrees can be obtained after an ordinary curriculum and ordinary examinations in some cities, while in London this is not the case. The true remedy for this anomalous state of things appears to be that all medical titles should be assimilated in form, the only distinction being the status of the school from which they are obtained, or that the one portal system for each division of the country should be adopted. In the meantime I usually find the most eminent and best-qualified men of my acquaintance invariably giving the courtesy title, and except as a matter of abstract justice feel perfectly indifferent on the vexed question of "Dr. *versus* Mr." If Dr. Black is willing to pay the costs he will find scores of instances in which the title of "Doctor" is assumed by M.B.'s and College of Physicians diplomates against whom legal proceedings might be taken with a view to restrain their infringement of the supposed right of that varying quantity, a real "M.D."; or possibly satisfaction might be obtained by obtaining the opinion of counsel. I fear Dr. Black would find that—as in the title of "Reverend" (about which there was a similar dispute)—in matters of taste, courtesy, and custom, these, and not law, will rule.

I am, Sirs, yours obediently,

Loughborough, March 16th, 1895. J. B. PIKE.

To the Editors of THE LANCET.

SIRS,—I have read with interest the letter in THE LANCET of March 16th from Dr. Campbell Black, and, whilst entirely agreeing with him that assuming the title of "Doctor" without a degree entitling one to it should be considered "infamous conduct in a professional respect," I cannot agree with him as to the deception practised on the public. Does he mean to imply that unless one is an M.D. he is not a doctor? Does he mean to imply that M.D.'s are the only people capable of "doctoring"? If so he errs greatly. Are M.D.'s so skilful, so learned, so very much superior that they should receive a title, whilst men with only from one to six diplomas, who have spent exactly the same time in the study of medicine as themselves, who have seen the same operations, the same patients, and attended the same lectures, are to have no distinction of this sort? What is an M.D. but a diploma a very little better than other diplomas? Why are there not more M.D.'s? Is it because men are not able to pass the examinations? No, certainly not; often it is because they cannot afford to attend a university, often simply because they make a false start, and, as it were, get off the "main line" and have to travel along a track which does not lead to an M.D. I would suggest a remedy. Let all M.D.'s be called physicians and ordinary diplomates doctors; for, whatever our qualifications, *we are* doctors—why should we not be allowed to say so? I think the deception on the public, if any, is on the part of the M.D. who tells them that he alone is a "proper doctor," and gives the public to understand that this is not the case with his neighbour who only happens to be, say, F.R.C.S. Eng., L.R.C.P. Lond., D.P.H. In conclusion, I would point out to Dr. Black what he appears to have rather overlooked—viz., the most eminent men in our profession are not all M.D.'s. Are our great surgeons to have no title, whilst some clumsy bookworm who has managed to scrape through the M.D. poses before the public as a greater man? I do not myself want to be called "Doctor" except to prevent people saying I am not one. I should prefer to see the title done away with entirely.—I am, Sirs, yours faithfully,

March 22nd, 1895. M.R.C.S. &c.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Assizes.

LORD CHIEF JUSTICE RUSSELL concluded the criminal business of the Assizes on the 25th inst. No conviction for murder has occurred, but in one case in which a man was charged with the murder of his wife the judge told him that he had had a very narrow escape. The medical witness found thirteen of the woman's ribs broken, some of the fragments having penetrated the lungs. It was a sad story of intemperance on the wife's part, followed by brutality on the part of the husband, ending fatally. A woman, who had been convicted of causing grievous bodily harm to a girl entrusted to her care, was sentenced to five years' penal servitude. The evidence disclosed acts of fiendish cruelty, the prisoner having on several occasions burnt and beaten the child, who, unable to bear it any longer, escaped to a neighbour's house. Severe punishments were also awarded to those who had been convicted of wounding with knives and to those who had been found guilty of criminal assaults upon children.

The Head Constable's Annual Report: Decrease in Drunkenness.

Captain Nott-Bower's annual report shows a most gratifying diminution in the number of cases of drunkenness. Making every allowance for the old objection to statistics that they may be made to prove anything, there is one circumstance which goes far to prove the truthfulness of these. Up till 1893 the statistics had to be made up to the end of September in each year; those of 1893 and 1894 relate to the whole of each respective year only. Again, the statistics of each year have always been (with the exception mentioned) on the same plan. Up till 1889 the yearly number of cases had been as high as 21,694 and never lower than 12,568. The following are the numbers for six years: 1889, 16,042; 1890, 14 680; 1891, 11,343; 1892, 9005; 1893, 7936; 1894, 5657. There is nothing after all that is inexplicable in such a reduction. For years past Liverpool has been reviled as "the black spot on the Mersey"; while judges, magistrates, clergy, and philanthropists have all raised their voices in the cause of temperance and in denunciation of drunkenness. It would, indeed, be disastrous if all these efforts had been in vain. But two more circumstances must be taken into account. One is that a large number of persons are yearly being absorbed into the ranks of adult citizens who have been brought up to be total abstainers from childhood, a number which is yearly increasing. Another is that the times have been very depressed for some years past, and if prosperity shows itself in an increased revenue from the sale of intoxicants it is, too, probable that reduced wages and loss of work mean less drink and less drunkenness.

The Effects of Punishment on Drunkards.

In connexion with this subject it must be borne in mind that the penalty of spending a night—possibly two nights—in the case of those arrested on Saturday in Bridewell is calculated to act as a deterrent against the repetition of the offence. While a total of 3800 persons were apprehended for the first time, those who had made one previous appearance only numbered 644, the hardened offenders decreasing gradually down to the twelfth time, when they showed a tendency to rise again. This accords with the views of experienced magistrates, who have expressed the opinion that a large number of persons charged with drunkenness come before the bench once, and once only.

The Report on Immorality.

With regard to the second great sin of great cities the head constable's report is less satisfactory. During the

year 1894 proceedings were taken in 792 cases against persons for keeping brothels; in 677 a conviction followed, 32 were discharged, and in 83 the persons charged absconded. But in 13 cases only did there appear to be even *primâ-facie* evidence against the owners or agents of these brothels of an offence against the letter of the present law. The 13 cases when tried resulted in only 2 convictions, both these convictions being against the same woman, who was convicted mainly on evidence that she was the habitual frequenter of the brothels of which she was owner. It is incredible that there can be such ignorance on the part of owners and agents as to the uses to which their houses are put.

The late Distress during the Severe Weather.

The employment of the police, both city and county, as almoners during the severe frost and the distress which prevailed through so many men being thrown out of work was attended with the happiest results. As a local paper observes, it presents the police in a new and honourable phase. In times past they were regarded almost as the natural enemies of the lower classes; they are now recognised as their best friends. House-to-house visits were made, and by this means, combined with kindly tact, many deserving poor, who would rather have starved than have asked for help, were relieved from hunger, being provided with food and fuel. This was in addition to the more clamorous being also relieved. In a suburb largely inhabited by the working classes 28,016 meals and 46 tons of coal were distributed; the donations in money amounted to £282, but the contributions of food, coal, and clothing were also so liberal that there remains a substantial balance for any future emergency.

March 26th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Aberdeen University.

DR. MACGREGOR has handed over to the University Court the sum of £300 subscribed towards the "Dr. James Anderson Memorial Fund." It is to be devoted to instituting a gold medal and, if possible, a prize for clinical medicine, to be awarded annually. It has been competed for this year for the first time, and has been won by Mr. Robb. The extension scheme of the University buildings has assumed a new phase within the last few weeks. The side wings of the quadrangle at Marischal College are to be completed, but the front block, which was to be largely the administrative block, is to be for the present abandoned. Towards this new plan Dr. Mitchell of Newcastle has offered another £4000 on certain conditions.

The Scientific Study of the Mental and Physical Conditions of Children.

On March 25th a large audience assembled in the Natural History class-room in Marischal College to hear Dr. Francis Warner lecture on this subject. Principal Sir William Geddes occupied the chair, and, besides a number of the professors, the audience included the chairman and several members of the Aberdeen School Board, the Rector of the Grammar School, and many teachers.

Death of Miss C. S. A. Peddie.

Miss C. S. A. Peddie (Sister Sibbald) died suddenly on Wednesday, the 20th inst., at King's College Hospital, from pulmonary embolism ten days after an operation. She was a daughter of Dr. Alexander Peddie of Edinburgh, and had been eleven years at King's College Hospital, four as ward sister and seven as home sister. After a service in the chapel at King's College Hospital on Monday last, the remains were removed to Edinburgh and interred on Tuesday morning. Miss Peddie was beloved by a large number of friends in London and Edinburgh, and much sympathy is felt for the family in their sad affliction.

At the February meeting of the Aberdeen Branch of the British Medical Association a motion by Professor Ogston to contribute 20 guineas towards the Aberdeen University Extension Scheme was unanimously adopted. At the March meeting a similar motion by Dr. Garden to give another 20 guineas to the Aberdeen Royal Infirmary was negatived.

March 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Richmond Lunatic Asylum.

IN THE LANCET of the 16th inst. notice is taken of the grant by order of council of £6000 to complete the erection of temporary buildings provided to meet the overcrowded condition of the asylum, and to provide additional accommodation at Portrane pending the erection of a special lunatic asylum there. The latter will cost between £200,000 and £300,000, and much excitement has been caused by articles and correspondence in some of the daily journals in favour of the acceptance of the lowest of three estimates tendered by three architects whose designs were approved of by the inspection committee and classed together as of equal merit. The question has now been settled, for the board of control of the Irish lunatic asylums has selected the design of the eminent architect, Mr. George Ashlin.

Poor-law Medical Officers.

The *Irish Times*, in an excellent leading article on the subject of the election of Poor-law medical officers by boards of guardians in Ireland, complains of the absence of that "proper chance of promotion" which would secure for the most populous and important districts those who possess the largest knowledge and the best repute. The editorial remarks seem to be worthy of reproduction, as they advocate to a certain extent that fixity of tenure in these posts upon the want of which THE LANCET has frequently commented. Nothing, it is stated, is more inimical to the public interest than the fixing for the greater part of his useful life of a man of acknowledged mark and eminence in his profession in a place where there is no demand for his powers, while at the same time in other quarters men of shorter standing, who have yet their fame to make, may be put in charge of districts where the severity of the duties and its higher responsibilities are manifest.

Influenza in Dublin.

Owing to the prevalence of this disease the number of deaths in Dublin has recently far exceeded the average of this somewhat unhealthy town. Teaching at some of the medical schools here was almost brought to a standstill on account of the illness of professors and lecturers. The disease proved indirectly fatal to a member of the family of one of our best-known and most popular surgeons, Mr. Meldon, Ex-President of the Royal College of Surgeons in Ireland, and much sympathy is felt for him in his bereavement.

Health of Dublin.

Sir Charles Cameron reported that during the week ending March 16th the death-rate in the whole area was 41·9 per 1000, the rate in the city being 47·4. During the last three weeks the death-rate, which was previously below the mean, rose to figures considerably above the average for the corresponding period in the previous ten years. In the English and Scotch towns very high death-rates prevailed, and from an earlier period in the year influenza was more or less responsible for the increase. As that disease has only appeared in Dublin when it was beginning to decline in England, and when the weather everywhere had become mild, it may be hoped that it has reached its maximum here, and that its fatality will henceforth decline.

The Influenza Epidemic in Belfast.

During the past three weeks there has been a very widespread epidemic of influenza in Belfast and throughout the north of Ireland. Though a large number have been attacked the disease on the whole has not been so severe as in the previous visitations. Infants and children have suffered in larger numbers than formerly, and a red rash has been frequently an accompaniment of the disease. In certain cases the rash has been attended with itching like urticaria, while in others it has been scarlatiniform. It is not followed by desquamation, and in the early stages the diagnosis from true scarlet fever has sometimes been difficult.

The Winter Session, Belfast.

The winter session will terminate on April 11th. Among many of the teachers the feeling is growing that it would be better to begin earlier, say in the middle of October, and to end at the termination of March. It is also hoped that the examinations of the Royal University of Ireland (to which the Belfast school sends over 50 per cent. of the candidates) will

also be held at an earlier date. At present the M.B. examinations take place in May, and as the summer session in the schools begins on May 1st these arrangements of the Royal University interfere with teaching in the case of those who are examiners. There is no reason at all why the examinations should not, as in some other universities, be in April.

Belfast Ophthalmic Hospital.

Dr. Walton Browne, in presenting the surgical report at the annual meeting of this hospital on March 25th, said that during the past year 1212 eye cases, 220 ear, and 230 throat cases were treated at the extern department, and 109 cases were admitted into hospital. During the year the assistant surgeon, Dr. Calwell, resigned, and Dr. Cecil Shaw was appointed in his place. A large number of students attended the clinique. Financially there was a balance in favour of the institution.

Witchcraft in Clonmel.

A most extraordinary case is reported from the neighbourhood of Clonmel, and it has caused a most painful shock to the whole community, especially as it indicates that there are some few people who believe in the powers of witchcraft. It appears a poor woman named Cleary was visited by the dispensary medical man, who found her suffering from nervous excitement and a slight attack of bronchitis, but there was nothing to cause anxiety. Later on some of her friends apparently conceived the idea that the real Mrs. Cleary had been spirited away and a witch substituted in her place. A "herb doctor" was called in, but the poor woman strenuously objected to swallow his potions, and her obstinacy was regarded as a further indication that the real Mrs. Cleary was not being dealt with, and with the view of ascertaining the truth the poor creature was actually placed across the fire. It was stated that soon afterwards she left the house, and for a time no tidings of her could be found. Eventually, however, the police, after careful searching, discovered her body buried in a field. An inquest was held, and the evidence of the medical men who made the post-mortem examination is most gruesome reading. The right hip and thigh and a portion of the abdomen were charred and burned, with the internal organs protruding through the burned apertures. The jury brought in a verdict that death resulted from burns, and a magisterial investigation into all the circumstances is being held. The inspector of police states in an information that he has reason to believe that it was by the instructions of the "herb doctor" the horrible injuries were inflicted.

The President of Queen's College, Galway.

The Queen has been pleased, on the advice of the Government, to withdraw the warrant that terminated Dr. Moffett's appointments in Galway on the 25th inst. Dr. Moffett will continue to hold his office as before.

The Battle of the Clubs at Cork.

The following subscriptions are announced by Mr. D. D Donovan, the hon. treasurer of the Cork Societies Medical Officers' Indemnity Fund:—Mr. Henry Stear (Saffron Walden, Essex). £1 1*s.*; Mr. T. Jenner Verrall (Brighton), £1 1*s*; Surgeon-Major R. T. Beamish (The Citadel, Portland), £2 2*s.*; Lincolnshire Division, Midland Branch, British Medical Association, £4 5*s.*

The Condition of the Bishop of Cork.

I regret to say that I have learned through a most reliable source that the Right Reverend Bishop Meade has been bitten by a dog which at the time exhibited symptoms which would indicate that it was possibly suffering from rabies. The Bishop, noticing that the dog was ill, stooped down to fondle it and was bitten slightly on the hand. The coachman then endeavoured to remove the animal, and in the attempt had his hand very severely lacerated. Further investigation showed that the dog was suffering from paralysis, and as he was not running about in the usual frantic fashion peculiar to rabid animals it does not appear to have occurred to his lordship that there might be any special danger attending the bite, and he allowed five days to elapse before he consulted a surgeon. The dog, which was of the terrier breed, was afterwards sent to a veterinary surgeon, and he, fearing it was suffering from the paralytic variety of rabies, recommended its destruction, and the spinal cord has been submitted to a pathologist for examination. It is stated that his lordship and the coachman have proceeded to Paris to put themselves under the Pasteur treatment. General sympathy is felt throughout the city for the Bishop, as he has become very popular since his arrival in Cork owing to the active interest he has taken in many works of public utility. He has been a prominent figure, too, at the board meetings of some of our more important medical charities.

The Death-rate in Cork.

The medical superintendent officer of health reports that for the four weeks ending March 9th the mortality was 36·75 per thousand and he attributes the high rate to "the depressing influence exercised by the recent cold weather and to the long-continued prevalence of easterly winds." It seems strange that though the general mortality was so high the number of infectious cases showed a very considerable decrease as compared with the number in the corresponding period of last year, and, as I mentioned in my last letter, the amount of sickness of any kind has been very small.

Mr. Richard Murphy, the medical officer, Newbridge Dispensary, county Kildare, died on the 24th inst.

March 26th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Reorganisation of the Paris Maternity Hospital.

Up to Jan. 1st, 1895, the Maternité or Maison École d'Accouchement, situated in the Boulevard de Port Royal and containing 322 beds, occupied an exceptional position amongst the hospitals of Paris. Instead of being superintended by an accoucheur it was directed by a surgeon (Dr. Guéniot), although the practical working of the establishment was in the hands of Madame Henry, the *sage-femme en chef*. Taking advantage of the retirement through age of Dr. Guéniot, a change was made in the organisation, Dr. Budin, the well-known physician-accoucheur of the Charité, being appointed accoucheur, with Dr. Auvard as assistant accoucheur, Dr. Charrin being appointed in charge of the patients needing ordinary medical care. The accoucheur has to deliver eighty lectures per annum, the physician twenty, and the assistant accoucheur forty. The *sage-femme en chef* will take part in the teaching of the female students (*élèves sages femmes*). We thus see a decided anomaly removed, and a lying-in establishment provided for the instruction of female midwives placed, as it should be, under obstetric physicians.

Sanitaria for Phthisical Patients.

It has long been a matter of surprise to Englishmen that there should exist in such an enlightened city as Paris no hospital devoted to the treatment of phthisical patients. As a matter of fact, the medical wards of the general hospitals are filled with these poor sufferers, who, being in a great majority (an average of about 200 of them die weekly in Paris), monopolise room sadly wanted for men and women affected with other diseases. The danger of infection incurred by the neighbours of the *poitrinaires* is too obvious to be mentioned. There has recently been formed the Société des Sanatoria Français with the object of establishing in different parts of the country retreats for cases of phthisis. The society is already at work, for land has been bought in the neighbourhood of Ajaccio, the capital of Corsica. Here three sanitaria—one maritime, one at an elevation of 1000 metres, and one situated still higher (1600 metres)—will soon be built. The mayor of the town, fearing that the presence of these establishments would constitute a standing danger to the population of Ajaccio, consulted Professor Verneuil, President of the Œuvre de la Tuberculose, and Professor Brouardel, President of the Comité d'Hygiène of France. Dr. Petit, secretary of the Œuvre, was despatched to Ajaccio to inspect the *locus*, and he has reported in favour of the innocuity of the proposed sanitaria. The Société des Sanatoria Français intends to construct pavilions in different towns for the reception of phthisical patients, whose keep and treatment will be paid for by the local Assistance Publique. Dr. Netter has also investigated the question of the danger attending the hospitalisation of this class of patients, and he reports to the Comité Consultatif d'Hygiène that the observance of ordinary sanitary rules will largely suffice to obviate any risk incurred by the inhabitants of towns in the neighbourhood of such establishments.

A Health Exhibition.

Paris is to have its "Healtheries," the scene to be the Champ de Mars, and it will be held from May 15th to Sept. 15th. The exhibits will be divided into ten classes—

viz., Hygiène de l'Habitation Privée et Collective, Hygiène Urbaine, Prophylaxie des Maladies Transmissibles, Démographie et Statistiques Sanitaires, Science Sanitaire, Hygiène de l'Enfance, Hygiène Industrielle et Professionnelle, Hygiène Alimentaire, Hygiène du Vêtement, and Exercices Physiques.

The Transmissibility of Tuberculosis.

Dr. Rémy[1] relates a case of tuberculous inoculation, the victim being a healthy child aged three years. The child had a wound of the chin occasioned by a fall. This wound became the seat of a warty cutaneous tuberculous growth, whose presence caused the development of tuberculous lymphangitis of the neck, resulting in the formation of an abscess. The origin of the infection may have been due to kisses of a tuberculous person.

March 26th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Vienna Medical Society: Syphilis; a Case of Raynaud's Disease.

PROFESSOR NEUMANN, at a recent meeting of the Vienna Medical Society, spoke on syphilis of the internal female genitals. Concerning recent exanthemata on the vaginal mucous membrane, he said venereal eruptions have not been satisfactorily ascertained to occur there or on the cervix uteri, with the exception of moistening papulæ. In 100 cases of syphilitic primary diseases fifty-one have appeared on the vaginal portion of the cervix and only four on the vagina; they caused cicatrised strictures and menstrual interruptions. Gummatous nodes and formation of ulcers on the internal female sexual organs have been proved by numerous observations without doubt. The syphilomata of the vagina occur at the orifice and the anterior, rarely in the middle third. He had observed a diffusive gummatous affection of the vagina resulting in recto-vaginal fistulæ. Syphilis of the corpus uteri is extremely rare, but metritis and endometritis frequently cause abortion or premature birth. By means of statistical returns Professor Neumann showed the pernicious influence of syphilis on posterity. Concerning the death of the fœtus from syphilis, infection of the ovum or the semen has been suggested; but syphilitic disease of the endometrium and placenta sufficiently explains a great many cases of habitual abortion. By the blood exchange taking place between the fœtus (affected with syphilis from the father) and the mother the uterus must be attacked. It is furthermore known that syphilis localises itself on parts which are often irritated. This is the case with the uterus. Cases not uncommonly occur in which the mature fœtus is stillborn or dies soon after birth without any syphilitic symptoms descending from sound parents, whereas parents affected with tertiary syphilis procreate sound children. Without doubt anæmia and the decrease of the red blood-corpuscles and the hæmoglobin resulting from it perniciously influence the life of the fœtus. Dr. Narath, assistant of Professor Güssenbauer, exhibited a patient aged forty-four years who shows the typical symptoms of Raynaud's disease. Both hands and feet were cyanotic, the skin arid and exfoliating, and the fingers cylindrical and symmetrically shortened by gangrenous processes. Dr. Narath supposes it to be an idiopathic disease in consequence of functional or anatomical lesions of the bloodvessels. The idiopathic form is characterised by the appearance of paronychiæ, and the symptomatic by gangrene in little patches. Professor Drasche has observed a similar case in consequence of influenza, therefore he supposes an infectious origin of many cases.

Anthropological Society.

At the last meeting of this society Professor Benedikt spoke of the cranium and brain of the murderer Schneider, whose name still frightens the housemaids of Vienna. The cranium is extremely asymmetrical and the sutures are grown together. On the brain Professor Benedikt clearly saw the middle furrow of Larrey, which characterises the brain of the beasts of prey. Schneider was not diseased in mind; he had a congenital and developed criminal nature, and the treatment of such a perversion is the task of justice. The removal of creatures who injure society by their qualities is the right of the law. Professor Neumann publishes a peculiar case of parasitic disease of the skin. The parasite produced burrows in the skin, and when these are in process of formation the patient passes sleepless nights in consequence of terrible pains. In the present case the burrows are on the nates and the leg. Professor Neumann observed the course of development of a burrow. First arises a reddish place of the extent of a thaler; then in the middle of it a white spot appears, which grows red in half an hour or so. The animal lays eggs under the skin; from these grubs originate, which produce the burrows.

March 24th.

[1] Journal de Clinique et Thérapeutique Infantiles, March 14th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Whipping-post.

THE subject of instituting the whipping-post as a method of punishment of those who inflict injuries upon their victims was discussed in the Section on Public Health of the Academy of Medicine. It was brought forward by the President of the Society for the Prevention of Cruelty to Children, who had prepared the form of a law to be introduced into the Legislature. The argument for the measure was that the only punishment which criminals guilty of felonies against the person fear is pain, and hence flogging will accomplish far more in deterring this class than imprisonment. It was contended that the corporal punishment should not take the place of imprisonment, but should be additional to that at the discretion of the court. The proposition was favourably received by some of the medical members present, but it has not been approved by the profession at large. Nevertheless, the measure has been introduced into the Legislature, and has been commented upon more or less unfavourably by the public generally. There is little doubt that it will be rejected.

Large Endowment of a Medical School.

The oldest medical college in New York, and the second oldest in the United States, the College of Physicians and Surgeons, has been the recipient of large endowment funds from the Vanderbilt estates. The Senior Vanderbilt gave $500,000 towards the purchase of a new site and the erection of buildings several years since. This was followed by several smaller gifts from different members of the family. With these means at its command the trustees greatly enlarged and improved their facilities for teaching. Large and well-equipped laboratories were established, clinical instruction was perfected, and as a consequence the classes rapidly increased until it became impossible adequately to provide for them. And now the Vanderbilts have duplicated their endowment, and the College will at once extend all its departments of teaching. When the institution has completed all its projected improvements, the "Old School," as it is familiarly known in the profession, will be the foremost centre of sound medical learning in the United States.

Tenement House Reform.

The Governor of the State of New York appointed a commission last year to study the whole subject of the domiciles of the poor of New York City. The commission was composed of prominent citizens of different professions, the chairman being the editor of the famous *Century Magazine*. The commission took a large amount of evidence, which showed (as was to be expected) that the housing of the poor of this city is most discreditable. One startling discovery was made which excited unusual public interest. It was found that the large blocks of tenements which the Trinity Church Corporation owned were not supplied with water, and in other respects were deficient in ordinary sanitary appliances. A suit was brought against the corporation to compel it to correct these deficiencies. The trustees contested the suit and were defeated in the lower courts. They appealed, and within a few days the higher court has decided against them. The result has been received with great favour by the public. The commission has now reported the results of its work to the Legislature, with a Bill making sweeping changes in the building laws. The Bill is encountering much opposition from the landlords, and it is very doubtful if the really good features of the measure—such as making all tenements fireproof and supplying them with abundance of water, air, and light—will be successful.

Keely Cure enforced by Legislation.

One of the latest freaks of legislation is an effort to enforce the Keely Cure remedy in the treatment of the

alcohol habit by law. The State of Massachusetts is distinguished for its conservatism in legislation, and yet its Legislature is gravely considering a Bill to compel the employment of the Keely Cure in the treatment of patients in the Massachusetts Hospital for Dipsomaniacs. This ridiculous attempt to govern the methods of treament of a disease by statutory laws in one of the oldest States of the Union creates much comment, and will probably end in total discomfiture of the advocates of this scheme for popularising an alleged "remedy" for inebriety not recognised by the medical profession.

A Statue of Dr. Gross.

Congress has passed the Bill granting permission to the American Surgical Association and the Alumni Association of the Jefferson Medical College to erect a statue to the memory of Samuel D. Gross in this city. The Bill appropriates $1500 for a pedestal.

March 13th.

Obituary.

HAROLD J. MOLYNEUX, L.R.C.P. EDIN., M.R.C.S. ENG.

IT is with sincere regret that we have to chronicle the death of Mr. H J. Molyneux of Upholland, Lancashire, at the early age of forty-three years. He was the son of a surgeon, and studied at the Liverpool School of Medicine. Immediately on obtaining his diplomas, although only in his twenty-first year, he attended patients in his native village, and subsequently on his brother's death succeeded to the practice established by his father, which ultimately in his hands became one of the most extensive in this part of the country. About fourteen months ago he had a severe attack of hæmatemesis, from which he recovered sufficiently to resume his professional duties, but on the 2nd inst. he had a recurrence of gastric symptoms, to which he succumbed on March 9th. He was a man of great personal influence in the district, and a sound and safe practitioner; he held numerous Poor-law appointments, and was also medical officer of health to the Billinge Local Board. Of a most generous and kind disposition, he is mourned by all who knew him. The funeral took place at St. James', Orrell, on March 13th, and was attended, not only by many of his brother practitioners, but by a large gathering of the general public—a testimony of the affection and esteem in which he was held by all.

BASIL DE BEAUVOIR CAREY M.A., M.B. CANTAB., M.R.C.S. ENG., L.S.A.

THE death of Dr B. de B. Carey has brought deep sorrow on his numerous friends in Guernsey, where his promising career came to a premature close on March 17th. His health had been failing for some time, and his relatives were not unprepared for their bereavement. He was the second son of Dr. Francis Carey, who has for many years held a leading position among the medical men of the island, and, having determined to follow his father's profession, he studied at Cambridge University and St. Thomas's Hospital. He obtained the diploma of the Society of Apothecaries in 1886 and that of the Royal College of Surgeons of England in 1887. He did not however, definitely commence practice until he had graduated as M.B. at Cambridge University in 1889, when he settled down among his friends in Guernsey, and held the appointment of surgeon to the St. Peter Port Hospital for about two years. At the time of his death he was surgeon-captain in the Guernsey Militia. Dr. Carey was a man of most amiable character and very popular among his patients, as he had been among his fellow students at both his hospital and his university. He was in his Cambridge days a very proficient and enthusiastic cricketer. He leaves a widow and one daughter.

GEORGE THOMAS LEE, M.R.C.S. ENG., L.R.C.P.

WE regret to announce the premature death of a highly promising young practitioner, who had devoted his attention to lunacy, and for whom a bright and useful future was anticipated. Mr. Lee obtained his professional education at University College Hospital, London, and later held one of the junior posts at the Leicester Infirmary. He obtained his diplomas in 1883, and at once determined to adopt lunacy as his department of practice. He soon obtained the post of assistant medical officer to Fisherton House Asylum, Salisbury. Having held this appointment for rather more than a year, he took the similar post at the Institute for the Insane Colon Hill, Stafford. After working here for two years it was suggested that general practice might suit him better, as—never a strong man—he was somewhat run down. However, after a very short interval, in which, upon trial, he found general practice uncongenial, he returned to his old work at Coton-hill. In 1887, Dr. Pater of the Stafford County Asylum having died, the junior appointment was offered to Mr. Lee and accepted by him. He remained at this asylum until within a few days of his death, serving first as junior and later as senior assistant medical officer. It was during his work here that he gained the character of a conscientious and careful physician. He has left behind him many friends and many mourners.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent medical men are announced:—Dr. Victor Parisot, formerly Professor of Clinical Medicine at the Nancy Medical School.—Dr. Ljambl, formerly Professor of Clinical Therapeutics in the University of Warsaw.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the under-mentioned subjects:—

Surgery.—T. B. Abbott, Leeds; R. N. de Beauvais, Aberdeen; A. Harding, Royal Free Hospital; F. E. H. Keogh, St. Mary's Hospital; W. E. Kirby, University College; P. Kitchin, Leeds and St. Mary's Hospital; A. E. Philipps, Guy's Hospital; J. A. K. Renshaw, Cambridge University and Manchester; J. Spears, London Hospital; G. E. Williams, London Hospital.

Medicine, Forensic Medicine, and Midwifery.—G. W. Brown, St. Thomas's Hospital; W. J. Gillespie, St. Bartholomew's Hospital; A. Harding, Royal Free Hospital; P. Kitchin, Leeds and St. Mary's Hospital; R. W. Middleton, Leeds; H. S. Oliver, Charing-cross Hospital; A. E. Philipps, Guy's Hospital; E. P. Staples, St. Mary's Hospital.

Medicine and Forensic Medicine.—T. H. Wilkins, Charing-cross Hospital.

Medicine.—S. H. L. Archer, London Hospital; R. G. Jones, London Hospital.

Forensic Medicine and Midwifery.—J. S. A. Murphy, Leeds; G. A. Skinner, Guy's Hospital.

Forensic Medicine.—G. C. Jackson, Cambridge University and St. Mary's Hospital; A. L. M. Churchill, Westminster Hospital.

Midwifery.—G. Downes, Dublin; T. B. Abbott, Leeds.

To Messrs. Archer, Churchill, Gillespie, Harding, Kitchin, Middleton, Philipps, Skinner, Spears, Staples, and Williams was granted the diploma of the Society.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 14th, the President, Mr. Makeig Jones, being in the chair. Dr. Ernest Knight related a fatal case of jaundice in a boy six years of age. The first attack of jaundice was slight and transient. A month later he came under observation again with very deep jaundice and a much engorged liver. In a fortnight toxic symptoms set in, and two or three days after this the liver began to diminish in size. The patient died four weeks from the second onset of jaundice. At the post-mortem examination, which was limited to the abdomen, a mass of tuberculous glands was found in the portal fissure, compressing the hepatic duct. There was no sign of tuberculosis elsewhere in the abdomen. Mr. Makeig Jones showed a man forty-seven years of age the subject of mixed melanodermia and leucodermia. Except for the colouration the skin appeared perfectly normal. The hairs on the white patches in the axilla were also white. After an obscure illness three years ago he noticed that his face, trunk, and arms became bronzed, and then white spots appeared which gradually enlarged into big patches. Dr. Alfred Robinson showed a man with progressive muscular atrophy. Dr. Burges showed a specimen of malignant stricture of the cardiac end of the œsophagus. Vomiting sometimes as long as an hour after taking food was complained of, but throughout the illness the patient was never aware of any difficulty of swallowing. Dr. Hunt related a case of Exophthalmic Goitre with marked browning of the skin. Reference was made to a similar case recorded by Carrington in the Transactions of the Ophthalmic Society for 1886.—Mr. Richard Favell reported a case of puerperal eclampsia, and made remarks on the treatment of this affection.—The President, Dr. Keeling, Dr. Martin, Mr. Dale James, Dr. Arthur Hall, and Dr. Burges took part in the discussions.

THE ROYAL COMMISSION ON TUBERCULOSIS.—Mr. Shaw-Lefevre had a private interview at the House of Commons with the National Federation of Butchers and others on Tuesday night last with reference to the report of the Commission. Mr. Field, M.P., introduced the deputation, and urged the importance of having the report of the Commission issued at once. Mr. Shaw-Lefevre said that he was anxious to have the report published, but the delay had arisen from the death of Lord Basing. The secretary of the Commission reported that the greater portion was in type.

BIRMINGHAM GENERAL HOSPITAL.—The annual meeting of the governors of this hospital was held on March 20th. Mr. William Kenrick, M.P., who presided, said that it was the 115th annual report which was before the meeting, and that the progress made during a century would appear from the fact that the building was at the time of its erection "outside the village of Birmingham, being generally described as near Sutton Coldfield." The original number of beds was only 37; at present there are 270, and the premises now in course of construction will accommodate 340 patients. During 1894 there were 4336 in-patients and 49,835 out-patients, the average length of residence of the in-patients being twenty-four days; at the Jaffray Branch Hospital 237 patients were admitted.

THE CHEMICAL SOCIETY.—The annual meeting of this society was held in Burlington House on Wednesday afternoon last, Professor Armstrong presiding. The Faraday Medal was bestowed by the Council upon Lord Rayleigh in recognition of his services to physics generally and of the discovery of argon. Lord Rayleigh, in returning thanks for the honour that had been done him, made a graceful allusion to the prominent share in the discovery enjoyed by Professor Ramsay. Professor Ramsay contributed the sensation of the meeting by announcing the discovery of helium, a discovery upon which we comment in another column. The annual dinner of the society was held on the same evening in the Whitehall Rooms of the Hôtel Métropole, when the company had the pleasure of listening to a brilliant speech from Mr. A. J. Balfour.

UNIVERSITY COLLEGE HOSPITAL.—The annual meeting of the governors of this hospital was held in the board-room on March 22nd, Mr. Henry Lucas presiding. During 1894 there were 3035 in-patients, the average daily number resident being 181, and the average duration of stay being 21¼ days. The expenditure had exceeded the income by about £1000, and funds are urgently needed. Last year's festival dinner resulted in contributions amounting to about £4850, and the award of the Hospital Sunday Fund was £1288. Mrs. Nathaniel Montefiore had endowed a bed by a donation of £2000, and friends of the late Professor Marcus Beck, surgeon to the hospital, had partially endowed another. The arrangements for the rebuilding of the hospital were progressing satisfactorily, and the efforts of the medical and surgical staff had been successful in raising about £3000 for the building fund.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—A meeting of the Scottish Division of this association was held in the Hall of the Faculty of Physicians and Surgeons, Glasgow, on March 14th. After the preliminary business had been transacted a resolution expressing the sense of the great loss which the association has sustained in the death of Dr. Hack Tuke was submitted by Dr. Ireland and unanimously adopted. Dr. G. M. Robertson read a paper, "Sane or Insane?", which was followed by considerable discussion; and Dr. Turnbull showed the plans of an addition, in the shape of a "hospital block," which has recently been made to the Fife and Kinross District Asylum.—A meeting of the South-Western Division of the association will be held at the City Asylum, Fishponds, Bristol, on Thursday next, April 4th, at 2.30 P.M. The City Asylum is half-an-hour's drive from Bristol and one mile from Fishponds Station. Dr. H. Bristowe will contribute a further note on the Relationship between General Paralysis and Chronic Renal Disease. Dr. J. V. Blachford will read notes on a case of Ataxic Insanity. Dr. Law Wade will move the following resolution and initiate a discussion thereon: "That it is desirable that power be given to the visiting committees of asylums and hospitals for the insane to grant gratuities to the widows or orphans of officials who may die after long service or be fatally injured in the discharge of their duties."

THE HOSPITALS FOOTBALL CHALLENGE CUPS.—On Monday last the final ties were played in these challenge competitions under both rules. St. Bartholomew's competed with Guy's under the Association code, and came off victorious by one goal to nothing. St. Thomas's met St. George's in the final tie under Rugby Union rules and secured a substantial victory by three goals and three tries to nothing.

THE one hundred and fifty-ninth annual meeting of the governors of the Bristol Royal Infirmary was held on Tuesday last. The report showed that 1000 more patients had been treated in 1894 than in 1893, whilst the cost per bed had sensibly decreased. The resignation of Dr. Shekleton of the secretaryship to the institution, on the ground of failing health, was accepted with the greatest regret by the meeting, the words of commendation which Mr. C. D. Cave, the president of the hospital, bestowed upon Dr. Shekleton's work being received with general applause.

HOSPITAL SATURDAY FUND.—The annual meeting of this fund was held at the Mansion House on the 23rd inst. Mr. Reginald B. D. Acland, who, in the absence of the Lord Mayor, presided, stated that £17,609 had been distributed among London medical charities during the past year. The street collection had again fallen off, but the workshop collection showed an increase, the former amounting to only £4820, while the latter had reached the sum of £14,514, nearly the whole of which was contributed in pennies. On the motion of Canon Scott Holland a resolution approving of the principle of soliciting weekly subscriptions from working men was agreed to. The street collection for 1895 was fixed for July 13th. For our part we should be glad to know that the street collection was to be abandoned. It is not pleasant to see ladies touting for money in the streets, even in the divine cause of charity, and it affords an example of which other less worthy institutions are too apt to take advantage. The "man in the street" is notoriously wanting in discrimination in such matters.

BRITISH ORTHOPÆDIC SOCIETY.—A meeting of this society was held on Jan. 31st. There were about twenty members present. Mr. Ewens of Bristol was voted into the chair and made a few introductory remarks. Mr. Muirhead Little then showed a case of inveterate Talipes Equino-varus in both feet successfully treated by removal of wedges of bone from the astragalus and os calcis. Messrs. Keetley, Reeves, Noble Smith, Brodhurst, Walsham, Freer, and Ewens discussed the case and Mr. Little replied. Mr. Tubby presented a case of Contracted Elbow, Wrist, and Fingers due to pressure on the median nerve by scar tissue. The nerve was freed by operation and the flexor tendons of the wrist were subsequently divided, with complete restoration of the functions of the hand. Messrs. Keetley, D'Arcy Power, Reeves, and Walsham discussed the case and Mr. Tubby replied. Mr. Luke Freer brought forward a specimen, the amputated left leg of a case of congenital Talipes Varus due to deficiency of the left tibia. A paper was read by Mr. Keetley on the Causes of Rotation in Scoliosis. An animated discussion followed. The society adjourned after arranging for the next meeting at Liverpool in May.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Shops Early Closing Bill.

THE Select Committee appointed by the House of Commons to inquire into the subject of this Bill is now engaged examining witnesses. Apart from the adjustment of details the only point at issue seems to be whether further trial should be given to voluntary effort in the matter of early closing, or whether the time has now arrived for the interference of the Legislature. So far the evidence taken tends to the latter conclusion and is consequently in favour of the Bill.

Accommodation for the Insane in Dublin.

In the House of Lords on Monday, March 25th, a question was put to the Government with reference to the Richmond Asylum in Dublin, and Lord Ribblesdale, in the course of his reply, said that the Chief Public Health Officer of Dublin recently reported favourably on the healthiness of the site of the Asylum. He found that some limited portions of the soil had been contaminated by sewage in the vicinity of old drains, but that he considered could be remedied. The inspectors of lunatics had advised that, with certain alterations which were about

to be made, the Richmond Asylum could be continued with advantage as an institution for the care and treatment of the insane poor of the City of Dublin. The Resident Medical Superintendent had stated that in his opinion the site was not a suitable one for an asylum. Much had, however, been done to improve it by the execution of a complete system of drainage and the purchase of some additional land and alterations, and additions were now in contemplation for the improvement of the buildings.

Reformatory and Industrial Schools.

The Government have introduced into the House of Commons a Bill for enabling children to be sent from the Channel Islands to reformatory or industrial schools in Great Britain. In this connexion it may be added that the Government intend to appoint a committee to inquire into the whole question of the management of reformatory and industrial schools.

Imbecile and Epileptic Children in Workhouses.

Early in February a motion was made by Sir Walter Foster for a return showing the number on Sept. 1st, 1894, of imbecile and epileptic children under sixteen years of age in each workhouse, separate infirmary, school, or other similar establishment belonging to the guardians of unions in England and Wales (excluding the metropolis), distinguishing the number of such children who were of dirty habits and the number who would, in the opinion of the medical officer, be likely to be improved by special training. This return has been prepared and is now before Parliament. It is prefaced with a summary note which explains that there are 618 extra-metropolitan unions in England and Wales, that the particulars in the return are drawn from 175 unions, and that the remainder of the unions have no such children in their workhouses. The number of children who were imbecile only was 294 (male 174, female 120), the number epileptic only was 93 (male 55, female 38), and the number both imbecile and epileptic was 98 (male 52, female 46): total, 485 (male 281, female 204). The number of these children of dirty habits was 229 (male 142, female 87), and the number who, in the opinion of the medical officer, would be likely to be improved by special training was 178 (male 95, female 83).

HOUSE OF COMMONS.

THURSDAY, MARCH 21ST.

Potato Disease.

Mr. John Morley, answering a question put by Mr. W. Johnston, said that field experiments for testing the value of applications of copper sulphate and lime to the potato plant as a preventive of potato disease were carried out by the Agricultural Department of the Irish Land Commission in 1891, 1892, and 1893. The results obtained from the experiments conducted in 1892 and 1893 proved conclusively that a proper application of the mixture used was of great value as a preventive. It was not therefore considered necessary to continue the field experiments in 1894, but field demonstrations were given in a small district of the counties of Derry and Antrim, the same mixture being used.

The Accommodation for Members.

Mr. Cremer asked the First Commissioner of Works whether, in view of the evidence laid before the Committee on the Accommodation of the House of Commons during last session, he would endeavour to make arrangements for increasing the accommodation for members.—Mr. Herbert Gladstone replied that he was afraid he could not give this undertaking.—Mr. Cremer then asked whether he would consider a proposal to reappoint the Committee, and to this Mr. Gladstone replied that no practical advantage would come from the reappointment of the Committee.

FRIDAY, MARCH 22ND.

The Vaccination Commission.

Mr. Hopwood asked the Parliamentary Secretary to the Local Government Board why neither Sir George Buchanan nor Dr. Ballard, formerly chief medical officer and medical inspector of the Local Government Board, offered themselves for examination in defence of vaccination before the Royal Commission, whether both suffered from indisposition when their attendance was required, and whether, seeing that Sir George Buchanan had since recovered sufficiently to undertake the chairmanship of the Royal Commission on Tuberculosis, there was any obstacle present to prevent either of those gentlemen from being examined if the Royal Commission on Vaccination desired it. — Sir Walter Foster replied that it was not the practice of officers of the Local Government Board to offer themselves for examination before a Royal Commission. Some inquiry was made as to the attendance of Sir George Buchanan and Dr. Ballard before the Royal Commission on Vaccination, and it was the fact that both these gentlemen were then prevented by indisposition from attending. He regretted to state that Sir George Buchanan was still out of health, and on this account he undertook the chairmanship of the Royal Commission on Tuberculosis with great reluctance.

MONDAY, MARCH 25TH.

Pleuro-Pneumonia.

In answer to a question Mr. Herbert Gardner, President of the Board of Agriculture, said that a veterinary inspector had no power to order slaughter either in pleuro-pneumonia or glanders. In pleuro-pneumonia the power to slaughter rested absolutely with the Board of Agriculture, the compensation paid where the animal was not diseased being its value immediately before it was slaughtered. In glanders the power to slaughter rested with the local authority.

Substitutes for Butter.

Mr. W. O'Brien asked the Chief Secretary to the Lord-Lieutenant of Ireland whether he had yet come to any conclusion as to the introduction of a Bill this session for remedying the defects of the existing law for the detection of fraudulent substitutes for butter. Mr. John Morley in reply, said he was well aware of the importance of this matter, but, at the present moment there was a committee at work with regard to it, and immediately upon the receipt of the committee's report the question of amending legislation would be carefully considered.

Female Factory Inspectors.

Mr. Asquith, replying to a question on this subject by Mr. Sexton, said there were now four female inspectors of factories. They were not assigned to any particular locality, but travelled to every part of the United Kingdom where their services were required. Notices were exhibited in all factories and workshops in Ireland where women were employed stating that complaints might be sent to the female inspectors, and all such complaints were promptly inquired into by one of the female inspectors. With the staff and resources which were at present at his disposal he thought that the female inspectors were more usefully employed in peripatetic visits than if they were stationed in particular districts.

TUESDAY, MARCH 26TH.

The New Factory Legislation.

Mr. Asquith answered a question put by Mr. Woods with reference to woolsorters and the Bill of the Government amending and extending the Factory and Workshops Act. He said that an amendment would be proposed by the Government when the Bill was in committee to extend to their workshops the power given to the Secretary of State by Section 8 of the Act of 1891 to make special rules for industries certified to be dangerous or injurious. An inquiry, he added, had for some time been in process by the Factory Department into certain industries which involve the risk of injury to the persons employed, among them being woolsorting, where there was a possibility that anthrax might be contracted, and this inquiry was nearly completed. On its completion the question where special rules were desirable for the occupation of woolsorting would be considered.

WEDNESDAY, MARCH 27TH.

Better Houses for Farm Servants in Scotland.

The House engaged in a debate of some length on the motion made by Mr. Seymour Keay for the second reading of a Bill to provide for the better housing of farm servants in Scotland. The special object of the Bill, as Mr. Seymour Keay explained, is to strike at abuses in connexion with what is known in Scotland as the "bothy system." It provides that every building on a farm used as a dwelling or sleeping place for farm servants shall be provided with sufficient and suitable accommodation in the way of cubic contents, fireplaces, sanitary arrangements, and fixtures, having regard to the number of inmates. It also provides that when persons of both sexes inhabit the same "bothy" there shall be proper separate accommodation for each sex. Power is given to the local authority to make and enforce by-laws and, when its medical officer of health reports that the provisions of the Act are not complied with, to order the landlord of the premises to make such alterations and additions as may be required to give sufficient suitable and proper accommodation. Objection was taken to the Bill on the ground of its limited application, one member describing it as "a scrap of piecemeal legislation." Dr. Farquharson strongly supported the Bill and predicted that the local authorities in Scotland would carry out its provisions with prudence and discretion. In the end the Bill was read a second time.

IN COMMITTEE.

Food Products Adulteration.

A Defence of Margarine.

The Select Committee of the House of Commons on this subject resumed its inquiry on Tuesday, March 26th, Sir Walter Foster presiding.

Mr. Hickey, a wholesale butter merchant in Manchester and a representative of the Chamber of Commerce of that city, gave evidence in great detail as to the presence of water in butter. The trade in Manchester, he said, had given this matter the most careful attention and taken great pains to acquire information with regard to it, and had come to the conclusion that any standard under 20 per cent. would be unfair to the producer of Irish salt butter. The result of overworking butter in order to get the water out of it was to make it altogether unsaleable. An analysis of 350 samples of Irish salt butter taken in 1893 showed that 80 per cent. of them contained above 15 per cent. of moisture. If they established a 15 per cent. standard they would shut out 36 per cent. of Danish butter, 22 per cent. of English butter, and 50 or 60 per cent. of Irish salt butter. This Irish salt butter was scarcely sold in London, the great markets for it being Lancashire, Yorkshire, and Wales. As to margarine, the witness said he would prohibit colouring, because the object of colouring was to facilitate fraud. He admitted that according to the present law a man mixing 50 per cent. of butter with margarine must call it margarine, which it was not. It was only because mixtures conduced to fraud that he would prohibit them. He did not think that any method of labeling would be a sufficient protection against fraud. The great grievance the trade had was that the present law was not stringently administered—that, in fact, it had hopelessly broken down.

Mr. J. J. Thompson, another Manchester butter merchant, examined by the Chairman, said he imported margarine, most of it coming from Holland, and all of it being marked "margarine." He considered margarine and mixtures of margarine and butter most useful as articles of food. They were quite wholesome, and there was little difference between them and butter in the matter of nutrition. He could quote no scientific authority in support of this—it was merely his own opinion. He regarded margarine as quite as legitimate an article of commerce as butter, and to interfere with its sale would be wrong and very injurious. He did not think the working classes were defrauded, because they bought margarine for its value, which was lower than the price of butter. It was true that margarine came into competition with the cheap butters now sent from the colonies; that might be injurious to the butter makers, but not to the public. Whether he preferred a pound of New Zealand butter to a pound of margarine mixture would depend on the quality of the former, because it often went stale and was very inferior to the latter. In Lancashire margarine would sell in preference to all except the very finest quality of Australian butter. *Q.* Margarine is largely sold, is it not, to public institutions?—*A.* Yes; but always under the name of margarine. *Q.* And supplied to the inmates as butter?—*A.* Yes, that is so. Margarine was packed in shapes and sizes in accordance with the desire of the

customer and to suit the requirements of the district. He did not think that any interference with the shapes or makes of margarine mixtures would tend to diminish fraud upon the public, but he was sure that if the present law were properly enforced it would prevent fraud. He would not object to travelling inspectors going about to see that the Act was carried out and that local authorities did their duty. He did not know of any adulterated butter coming into the country now. People were afraid now because of the action taken here and in foreign countries. In his opinion all the butter now received in this country was pure butter and contained no percentage whatsoever of margarine. He made this statement in spite of the assertion that Brittany butter was sold cheaper here than in the country where it was made. Prosecutions, in his opinion, should be taken under the Margarine Act and not under the Sale of Food and Drugs Act. To license dealers in margarine would do no good because almost every retailer sold margarine nowadays. The public knew this, and a licence would tell them no more. There could not be a doubt that the introduction of these cheap Colonial butters had reduced the price of margarine very much.

By Sir Charles Cameron: One advantage possessed by margarine was that it contained much less water than butter. For instance, he had never heard of margarine that contained 15 per cent. of water, although this seemed to be common in the case of butter. He would not interfere with the colouring of margarine any more than of butter, and he thought that it would be an injustice to the working classes to say that they must take their margarine white. Another thing he wished was that butter mixtures should be permitted to be sold as such, and not branded "margarine."

By Mr. Whiteley: The people of Lancashire were very shrewd, and knew perfectly well that if they went into a shop and asked for butter at 6d. or 8d. per pound, they could not get genuine English fresh butter, no matter how the retailer might describe the article he offered. Some New Zealand butter could be sold at 6d. per pound, and he had no hesitation in saying that margarine at the same price would be found infinitely superior to it.

The Committee then adjourned.

The Committee met again on Wednesday, March 27th, with Sir Walter Foster in the chair.

Mr. James Hudson, engaged in the butter and provision trade in London, and a member of the London Chamber of Commerce, said he was not opposed to the sale of margarine as such, but he objected to the mixing of margarine and butter, because it was the cause of all the fraud and did a great deal of injury to butter makers in this country. Very large quantities of butter were coming here from our colonies at a very small price, and he believed that this new trade would interfere for a time at least with the sale of margarine. The colonial butter did not contain so much water as Irish butter and up to the present had proved good and sound and free from any trace of margarine. The large profits made by makers and retailers of spurious butter rendered them indifferent to the fines imposed on conviction. He would therefore increase the fines and send offenders to gaol on the third and subsequent convictions. Great quantities of margarine were sold in all the towns of Scotland, but especially in Edinburgh and Glasgow. He could only account for this by the Scotch people not caring to pay 1s. per lb. for butter when they could get margarine at half that price, which satisfied them. He should say that the margarine sold in Scotland contained no more butter than what came from the milk used in the process of manufacture. He recommended that butter and margarine should not be sold in the same shop, that all dealers in the latter should be licensed, and that they should be compelled to sell it in a particular shape and with a particular package. He was in favour of having margarine coloured, because in its natural colour it would look nasty and would be unsaleable. He also recommended the appointment of travelling inspectors. He had no hesitation in saying that many of the inspectors under the present Act were "squared." Cases were known where inspectors went into a shop and, on asking for a pound of margarine, were either supplied with fresh butter, which had cost, perhaps, 1s. 4d., or had found half a sovereign in the scales. He favoured the prohibition of mixtures, thinking that margarine was quite good enough to be sold upon its merits.

Mr. Harald Faber, Commissioner for the Agricultural Department of the Danish Government, said his duties in this country were to look after the interests of the agricultural products of Denmark. From time to time he received information from different parts of the country as to the sale of other butter and butter substitutes under the name of Danish butter, and he made inquiry into the circumstances of each case. He also kept under his observation improvements effected in this country and elsewhere in the making of butter and other farm products. The law of Denmark required that margarine should always be kept in certain shaped packages marked in a certain way. This provision was found most effective for its purpose of preventing imposition. They had inspectors appointed with no other duty than to look after the administration of the Margarine Acts, who inspected butter and margarine where they were manufactured, or kept for sale, or stored. All the expense was borne by the Central Government, not by the local authorities. They put a limit upon mixtures. By Act it was prohibited to add more than 50 per cent. of butter fat, but on account of the colour section of the Act it was impossible to have as much butter as 50 per cent. in the mixture. This section provided that the colour of margarine must not exceed a certain yellow tint, and if more than 20 per cent., or even 20 per cent., of butter was added the mixture would exceed in colour that pale tint. Therefore, as matter of practice, they never had more than say 25 per cent. of butter in the mixtures. It might be that certain conditions of weather baffled the colour test, but there were other tests that could be applied. The witness showed to the Committee a number of colour-plates used for this test. He admitted that it was a delicate and difficult test, but in Denmark, he said, the margarine inspectors performed it so well that they were agreed among themselves and produced excellent results with it. The penalties in Denmark for the minor offences ranged from £2 10s. to £10, while for the more serious offences imprisonment was awarded. From the experience of Denmark and what he had seen in this country he had no hesitation in saying that even high fines were not sufficient to put down fraud altogether. His view with regard to mixtures was that they should be prohibited by law, because they gave rise to unfair competition and swindling. He also thought that in this country, as in Denmark, margarine should be sold in a particular shape and with a particular mark upon it.

The Committee then adjourned for a week.

BOOKS ETC. RECEIVED.

ADLARD & SON, Bartholomew-close, London, E.C.

King's College Hospital Reports. Vol. i. (Oct. 1st, 1893—Sept. 30th, 1894). 1895. Price 7s. 6d.

ALCAN, FÉLIX, Paris.

Rapport et Mémoires sur l'Éducation des Enfants Normaux et Anormaux. Par E. Seguin. 1895. pp. 376.

BAILLIÈRE, J. B. ET FILS, Paris.

La Pratique de la Sérothérapie et les Nouveaux Traitements de la Diphtérie. Par le Dr. H. Gillet. 1895. pp. 293.

CHATTO & WINDUS, Piccadilly, London.

The Golden Butterfly. By W. Besant and James Rice. A New Edition. 1895. pp. 175. Price 6d.

GRIFFIN, CHAS., & Co., Exeter-street, Strand, London.

Infancy and Infant Rearing: an Introductory Manual. By John B. Hellier, M.D. Lond., M.R.C.S. 1895. pp. 121.

A Handbook of Hygiene. By A. M. Davies, M.R.C.S., D.P.H. Camb. Illustrated. 1895. pp. 590.

LEWIS, H. K., Gower-street, London, W.C.

Text-book of Diseases of the Kidneys and Urinary Organs. By Professor Dr. Paul Fürbringer. Translated from the German with Annotations by W. H. Gilbert, M.D., with Commendatory Letter from Sir Thos. G. Stewart, M.D., F.R.S.E. In two volumes. Vol. i. 1895. Price 7s. 6d.

LIPPINCOTT, J. B., & Co., Henrietta-street, Covent-garden, London.

International Clinics. Vol. iv. Fourth Series. 1895. pp. 365.

MASSON, G., Paris.

Leçons de Chirurgie (La Pitié, 1893-94). Par le Dr. Félix Lejars. 1895. pp. 629.

MORTON, G., Burgate-street, Canterbury.

An Anatomical Dissertation upon the Movement of the Heart and Blood in Animals: being a Statement of the Discovery of the Circulation of the Blood. By William Harvey, M.D. Privately reproduced in facsimile from the Original Edition printed in the year 1628. 1894.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover-square, London, W.

Transactions of the Obstetrical Society of London. Vol. xxxvi. for the year 1894. Part 4 for October, November, and December. Price 10s.

REBMAN, F. J., Adam-street, Strand, London, W.C.

Surgical Pathology and Therapeutics. By J. C. Warren, M.D. Illustrated. 1895. pp. 832.

Notes on the Newer Remedies: their Therapeutic Applications and Modes of Administration. By David Cerna, M.D., Ph.D. Second Edition. 1895. pp. 253.

Laboratory Guide for the Bacteriologist. By L. Frothingham, M.D. &c. Illustrated. 1895.

Syllabus of Gynecology based on the American Text-book of Gynecology. By J. W. Long, M.D. 1895. pp. 133.

ROXBURGHE PRESS, Victoria-street, Westminster.

The Money Lender Unmasked. By Thos. Farrow. pp. 240.

ST. BRIDE'S PRESS, Bride-lane, Fleet-street, London, E.C.

Drainage Work and Sanitary Fittings. By William H. Maxwell. Reprint. 1895. Price 1s. net.

SMITH, ELDER, & Co., Waterloo-place, London.

Dictionary of National Biography. Edited by Sidney Lee. Vol. xliv. O'Duinn—Owen. 1895. pp. 464.

SWAN SONNENSCHEIN & Co., London.

A Handbook of Systematic Botany. By Dr. E. Warming. With a Revision of the Fungi by Dr. E. Knoblauch. Translated and Edited by M. C. Potter, M.A., F.L.S. Illustrated. 1895. pp. 620. Price 15s.

TUTTLE, MOREHOUSE, & TAYLOR, New Haven, Conn.

On Digestive Proteolysis: being the Cartwright Lectures for 1894. By R. H. Chittenden, Ph.D., Yale University. 1895. pp. 137.

WHITTAKER & Co., London.

Dissections Illustrated: a Graphic Handbook for Students of Human Anatomy. By C. G. Brodie, F.R.C.S. Part 4: The Abdomen. Illustrated. 1895. Price 10s.

Hæmatherapy, or the Treatment of Diseases by the Administration of Animal Blood, with references to Electrotherapy; by G. Adolph Abrath; 1895 ("Herald and Daily Post" General Printing Works, Sunderland); price 5s.—The Royal Natural History, vol. iii., Part 17 (F. Warne and Co., Bedford-street, Strand, London; price 1s. net.—The Reorganisation of the Royal Engineers, 1895; Colburn's United Service Magazine.—Extrait de La Flandre Médicale (Librairie Générale de Ad. Hoste; Gand, 1894).—Die Bewegungsstörungen im Kehlkopfe bei Hysterischen; von Dr. med. Gustav Treupel (Gustav Fischer, Jena, 1895).—Archiv für Dermatologie und Syphilis; 30. Band, 3. Heft (W. Braumüller, Wien und Leipzig, 1895).—The Outbreak of Typhoid Fever at Wesleyan University; by H. W. Conn, Professor of Biology, Middletown, Conn. (from the Report of the State Board of Health for 1894).—Perforating Typhoid Ulcer, Peritonitis, Operation, Recovery; by R. Abbe, M.D., New York (reprint from the Medical Record, January, 1895).—Illustrated Modern Art and Literature, vol. i., No. 5 (published at 68, Fleet-street, London); price 1s.—The Precedent Cause of Rickets; by Dr. Robert J. Lee, F.R.C.P.; 1889 (T. W. Danks and Co., Dean-street, Soho-square, London, W.).—La Distomatose Pulmonaire par la Douve du Foie; contribution à l'étude des Hémoptysies parasitaires par Hilario de Gouvéa, Paris (L. Battaille et Cie, Paris, 1895).—Die Praxis des Chemikers; von Dr. Fritz Elsner; Lieferungen 1, 2, und 3 (Leopold Voss, Hamburg und Leipzig, 1895).—The Dentist's Register, 1895 (Spottiswoode and Co., London).—Dermatologie; Dermatoses

microbiennes et Néoplasies; par L. Brocq et L. Jacquet; Maladies en particulier, II. (G. Masson, Paris).—Some Remarks on the Treatment of Diphtheria by Mercurial Salts; by P. B. Bennie, M.A., M.D.; reprint (Stillwell and Co., Melbourne, Australia).—Beiträge zur Pathologie und Therapie der Gallensteinkrankheit; von Dr. J. Kraus, sen., Karlsbad; zweite Auflage (August Hirschwald, Berlin, 1895).—De la Puberté dans l'Hémiplégie spasmodique infantile; par le Dr. H. Leblais (F. Alcan, Paris, 1895).—Die Entstehungsweise der verschiedenen Formen von Peritonitis; von K. Biesalski (August Hirschwald, Berlin, 1895).—The Practical Examination of Railway Employés as to Colour-blindness, Acuteness of Vision, and Hearing; by William Thomson, M.D., Philadelphia (Queen and Co., Chestnut-street, Philadelphia).—A New Wool-test for the Detection of Colour-blindness; by W. Thomson, M.D., Philadelphia, 1894 (Queen and Co., Philadelphia).—Magazines for April: Englishwoman, Pall Mall Magazine, Sunday at Home, Leisure Hour, Boy's Own Paper, Girl's Own Paper, English Illustrated, Strand, Friendly Greetings, The London Home.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ALEXANDER, S. R., M.D. Lond., M.R.C.S., has been appointed Medical Officer for the First Sanitary District of the Faversham Union.

BROOKS, CHAS., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Gerrard's Cross Sanitary District of the Eton Union.

BROMET, EDWARD, M.A., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the West London Hospital, Hammersmith, W.

COLWELL, J. K., has been appointed Public Analyst by the Clerkenwell Vestry.

CUTFIELD, A., B.Sc. Lond., M.R.C.S., has been appointed Medical Officer for the Man of Ross Lodge of Oddfellows, Manchester Unity, vice Knapp, resigned.

DRAGE, LOVELL, M.D. Oxon., B.Ch., M.R.C.S., has been reappointed Medical Officer of Health for the Hatfield Rural Sanitary District.

FLAVIN, *F.* J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Seventh Sanitary District of the Ashton-under-Lyne Union, vice Kishys.

GAULT, EDWARD LESLIE, M.A., M.B., B.S. Melb., has been appointed Ophthalmic Surgeon to the Alfred Hospital, Melbourne.

HARSTON, L. DE C. E., L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer for the Pirbright Sanitary District of the Guildford Union, vice Brown, resigned.

INGLIS, A. M., M.D. Edin., L.R.C.S. Edin., M.R.C.S., has been appointed Consulting Physician to the Cheltenham General Hospital.

LORIMER, J. A., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Farnham Rural Sanitary District.

MITCHELL, R., M.D., M.Ch. Irel., has been appointed Medical Officer for the Hooton Pagnell Sanitary District of the Doncaster Union.

MURDOCH, MARY C., L.R.C.P., L.R.C.S. Ed., L.F.P.S G., has been appointed Assistant Medical Officer to the North-Eastern Fever Hospital, Tottenham.

PAGET, OWEN T., M.B., B.C. Cantab., has been appointed Resident Medical Officer to the St. George's and St. James's Dispensary, W.

PALMER, EDWIN C., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the Lincoln General Dispensary, vice Dalton, resigned.

RUSSELL, W. A. G., M.B., C.M. Aberd., has been appointed Medical Officer for the Wingage Sanitary District of the Easington Union.

SHAW, CECIL EDWARD, M.A., M.D., M.Ch. R.U.I., has been appointed Assistant Surgeon to the Belfast Ophthalmic Hospital.

STILL, GEO. F., M.A., M.B. Cantab., has been appointed Medical Registrar and Pathologist to the Hospital for Sick Children, Great Ormond-street, Bloomsbury, London.

SUCKLING, C. W., M.D. Lond., M.R.C.P., M.R.C.S., has been reappointed Consulting Physician to the Hockley Provident Dispensary.

TAIT, LAWSON, M.D. N.Y., F.R.C.S. Edin., F.R.C.S. Eng., has been appointed Consulting Surgeon to the Hockley Provident Dispensary.

TAYNTON, W., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Linton Sanitary District and the Workhouse of the Linton Union.

WEBBER, W. W., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Crewkerne Urban Sanitary District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BLOOMSBURY DISPENSARY.—Physician. An honorarium of £105 is annually voted to the physician. Applications to Mr. C. E. Baker, 12, Bloomsbury-street, W.C.

COUNTY ASYLUM, Dorchester.—Second Assistant Medical Officer, unmarried. Salary to commence at £130, rising £10 annually to £160.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary to commence at £100 a year, with prospect of an annual rise of £25 up to £200, and further increase according to promotion, together with furnished apartments, board, attendance, and washing.

EAST LONDON HOSPITAL FOR CHILDREN, Glamies-road, Shadwell, E.—House Physician. Board, lodging, &c. provided.

HOLBORN UNION.—Medical Officer for the Union Schools at Mitcham, Surrey. Salary £100 per annum, non-resident. Applications to the Clerk to the Guardians, Holborn Guardians' Office, Clerkenwell-road, E.C.

HOLLOWAY AND NORTH ISLINGTON DISPENSARY.—Two Honorary Medical Officers for the Rupert-road Branch of the Institution. Applications to the Hon. Secretary, 68, Aldermanbury, E.C.

LEICESTERSHIRE AND RUTLAND ASYLUM.—Assistant Medical Officer, unmarried. Salary £150, increasing £10 yearly to £200, with board, lodging, and washing. Applications to the Clerk to the Visitors, 10, New-street, Leicester.

LINCOLN COUNTY HOSPITAL, Lincoln.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

LONDON COUNTY ASYLUM, Hanwell, W.—Fifth Assistant Medical Officer. Salary £120 per annum, rising by £5 a year to £150, with board, furnished apartments, and washing. Applications to Clerk of the Asylums Committee Office, 21, Whitehall-place, S.W.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer, for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART AND PARALYSIS, 32, Soho-square, London. Clinical Assistants for the Electrical Department.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch, N.E.—Physician. Applications to the Secretary, Office, 27, Clement's-lane, E.C.

NORTHUMBERLAND COUNTY ASYLUM, Morpeth.—Clinical Assistant. Board and residence provided.

NOTTINGHAM GENERAL DISPENSARY.—Junior Assistant Resident Surgeon, for six months. Salary at the rate of £120 per annum, with rooms, fire, and light.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—House Surgeon. Salary £60, with board and washing. Also Assistant House Surgeon. Salary £30, with board and washing.

WEST RIDING ASYLUM, Menston, near Leeds.—Third Assistant Medical Officer. Salary to commence at £130 a year, rising £10 annually to £160, with board and apartments.

Births, Marriages, and Deaths.

BIRTHS.

ADAMI.—On March 24th, at Durocher-street, Montreal, Canada, the wife of J. George Adami, M.A., M.D. Cantab., of a daughter.

BALL.—On March 26th, at Upper Wimpole-street, the wife of Dr. J. B. Ball, of a daughter.

COLLINS.—On March 23rd, at Waveney-mansions, Fairhazel-gardens, South Hampstead, the wife of E. Treacher Collins, F.R.C.S., of a daughter.

COWEN.—On March 23rd, at Walpole Lodge, New Malden, Surrey, the wife of George Cowen, M.D., of a daughter.

CUTCLIFFE.—On March 20th, at North Tawton, North Devon, the wife of Montagu Cutcliffe, L.R.C.P. Lond., M.R.C.S., of a daughter.

DIXEY.—On March 18th, at Oxford, the wife of Frederick A. Dixey, M.D., Fellow of Wadham College, of a son.

LANCASTER.—On March 8th, at Rockdale, Clitheroe, the wife of Lewis T Lancaster, M.B. Edin., of a daughter.

MACKAY.—On March 16th, at The Cloisters, Knaresboro', the wife of Ian D. Mackay, B.A., M.B., of a daughter.

MORTON.—On March 21st, at Church-green-east, Redditch, the wife of Edwin Morton, M.D., of a son.

RAMSAY.—On March 24th, at Jesmond Dene, Bournemouth, the wife of F. Winsome Ramsay, M.S., F.R.C.S. E., of a son.

MARRIAGES.

CARTER—JUST.—On March 26th, at Westbury-on-Trym, by the Rev. S. Baker-Penoyre, Thomas Moravian Carter, M.R.C.S., L.R.C.P., to Adelheid Clara, youngest daughter of H. W. Just, Esq., Bristol.

SANDIFER—LEE.—On March 20th, at St. Augustine's Church, Highbury, Henry Stephen Sandifer, M.D., F.R.C.S., son of the late Jabez Sandifer, Esq., of Highbury-hill, to Evelyn, youngest daughter of Henry Lee, Esq., J.P., of Earlham, Highbury-quadrant.

DEATHS.

CAREY.—On March 17th, at Hirzel House, Guernsey, Basil de Beauvoir Carey, M.A., M.B. Camb., aged 32.

CHATER.—On Feb. 14th, at Hannans, Western Australia, Arthur Reginald Chater, M.R.C.S., aged 28.

HILLIER.—On March 22nd, at Beccles, Susan Hillier, widow of the late Thomas Hillier, M.D. Lond., F.R.C.P., Physician to the Hospital for Sick Children and to University College Hospital, London, of cardiac syncope in her sleep, aged 66.

JESSETT.—On March 23rd, at Glenthorne, The Avenue, Surbiton, the residence of his sister, George Thomas Lee, M.R.C.S., L.S.A., son of Fred. Bowreman Jessett, F.R.C.S., aged 34. For eight years senior assistant medical officer of the Stafford County Lunatic Asylum.

LEEDS.—On March 9th, suddenly, at the Europa Hotel, Gibraltar, Thomas Leeds, M.R.C.S. Eng., aged 55.

SMITH.—On March 20th, at 111, Blackfriars-road, S.E., Walter Stephen Smith, L.S.A., aged 67 years, late of Sheffield.

STRUTHERS.—At Hill End, New South Wales, on Feb. 17th, James Struthers, M.D., aged 35 years, second son of Emeritus-Professor Struthers, M.D., 24, Buckingham-terrace, Edinburgh.

TOWERS-SMITH.—On March 16th, at Harley-street, Cavendish-square, W, Towers Smith, M.R.C.S., aged 59.

WICKHAM.—On March 13th, at Polmont, N.B., Walter Wickham, M.R.C.S., Barrister-at-law, aged 38.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians. 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Gt. Northern Central (2.30 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY.—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-sq., W.C.).—3 P.M. Mr. G. G. Campion: Studies in Superior Protrusion (illustrated with lantern slides).—Mr. G. Brunton: (1) A Hodge Right-angle Handpiece altered to adapt it for use in Close Bites and Difficult Positions; (2) A new Amalgam Balance made in one piece.

TUESDAY.—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Voelcker: Carcinoma of Ureter.—Dr. F. Hawkins: Congenital Obliteration of Bile-duct.—Mr. Jackson Clarke: Sarcoma Mammæ.—Mr. E. Willett: Carcinoma of Bed of Thumb-nail.—Mr. L. A. Bidwell: Carcinoma of Stomach treated by Gastro-duodenostomy.—Dr. Lee Dickinson: Duodenal Ulcers in Women.—Dr. P. Weber: Cirrhosis of Liver in Child. Card Specimens:—Dr. A. A. Kanthack: (1) (with Mr. C. B. Lockwood) Psammoma of Tunica Vaginalis; (2) Psammoma (?) of Mesentery; (3) Psammoma of Vermiform Appendix and Ovary; (4) (with Mr. E. L. Lloyd) Metaplasia of Omental Epithelium into Squamous Epithelium; (5) (with Dr. C. P. White) Giant Cells in Innocent and Malignant Tumours of Epithelial Origin.—Dr. Voelcker: Ulceration of Gall-bladder in Typhoid Fever.—Mr. H. Snow: Malignant Reversion of Mammary Cystic Fibromata.—Dr. Lee Dickinson: Solitary Kidney with Two Ureters.

WEDNESDAY.—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Cullingworth and Dr. Duncan. Adjourned Discussion on Dr. Probyn-Williams and Mr. Lennard Cutler's paper on "Some Observations on the Temperature Pulse, and Respiration during Labour and the Lying-in." Dr. Remfry: List of Ovariotomies in Women over Eighty; A case aged Eighty-three complicated by Epithelioma of the Vulva.

THURSDAY.—HARVEIAN SOCIETY.—8.30 P.M. Mr. Howard Marsh: A Clinical Study of the more important forms of Abscess.

FRIDAY.—WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M., Special General Meeting. 8.30 P.M., Ordinary Meeting. Papers:—Dr. Coutts: Treatment of Empyema in Children.—Mr. S. Paget: Three cases of Secondary Malignant Disease of Pleura. Card Specimens:—Dr. Parkes Weber: Ruptured Heart.—Mr. Lake: Nasopharyngeal Polypus and Large Nasal Spur.—Mr. S. Paget: Ruptured Spleen.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Miller Hospital, Greenwich).—8.15 P.M. Discussion on Antiseptics. The Discussion will be opened as follows:—Antiseptics in General Surgery by Mr. John Poland; in Midwifery and Gynæcology by Dr. Horrocks; in Medicine by Dr. Newton Pitt; in Ear and Throat Surgery by Dr. Ezard; in Eye Surgery by Dr. Ernest Clarke.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY.—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. J. H. Targett: Recent Additions to the Museum of the College.

ROYAL INSTITUTION.—5 P.M. General Monthly Meeting.

SOCIETY OF ARTS.—8 P.M. Dr. D. Morris: Commercial Fibres.

TUESDAY.—ROYAL INSTITUTION.—3 P.M. Prof. Charles Stewart: The Internal Framework of Plants and Animals (XII.).

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—3 P.M. Subject of Lecture: Earth.

ROYAL COLLEGE OF PHYSICIANS, LONDON.—5 P.M. Dr. G. Fielding Blandford: The Diagnosis, Prognosis, and Prophylaxis of Insanity. (Second Lumleian Lecture.)

SOCIETY OF ARTS.—8 P.M. Captain Wiggins: My Recent Voyage in Siberia.

WEDNESDAY.—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. J. H. Targett: Recent Additions to the Museum of the College.

WEST LONDON HOSPITAL (Hammersmith, W.).—5 P.M. Dr. Abraham: Parasitic Skin Affections. (Post-graduate Course.)

SOCIETY OF ARTS.—8 P.M. Mr. John J. Holtzapffel: Sand Blast Processes.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Discussion on "Combined Drainage from the point of view of Health, Construction, Administration, and Law," to be opened by Dr. John F. J. Sykes and Mr. Wm. Nisbet Blair.

THURSDAY.—ROYAL INSTITUTION.—3 P.M. Mr. E. B. Tylor: Animism, as shown in the Religions of the Lower Races (II.).

ROYAL COLLEGE OF PHYSICIANS, LONDON.—5 P.M. Dr. G. Fielding Blandford: The Diagnosis, Prognosis, and Prophylaxis of Insanity. (Third Lumleian Lecture.)

FRIDAY.—THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.). 3 P.M. Subject of Lecture: Water.

THE CANCER HOSPITAL (FREE) (Fulham-road, Brompton, S.W.).—4 P.M. Mr. E. Cotterell: Excision of the Rectum.

ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. J. H. Targett: Recen Additions to the Museum of the College.

ROYAL INSTITUTION.—9 P.M. Lord Rayleigh: Argon.

SATURDAY.—ROYAL INSTITUTION.—3 P.M. Lord Rayleigh: Waves and Vibrations (VI.).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 28th, 1895.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Mar. 22	29·94	N.W.	49	47	97	64	44	...	Bright
" 23	29·96	S.W.	48	45	96	59	46	...	Cloudy
" 24	29·45	W.	52	50	83	58	47	0·06	Cloudy
" 25	29·35	S.W.	45	43	98	56	41	...	Cloudy
" 26	29·11	W.	45	44	78	54	41	...	Cloudy
" 27	29·19	S.	40	40	65	54	40	0·34	Raining
" 28	28·91	S.W.	47	44	81	49	40	0·19	Cloudy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

UNDER no circumstances do the Proprietors authorise the insertion of loose advertisement circulars and handbills in THE LANCET. Any such announcements are inserted by the newsagents, whom the Proprietors cannot control. At the same time, the Manager will be glad if readers will send him copies of any circulars, with the name and address of the agent through whom they obtain THE LANCET, and the Manager will then endeavour to mitigate the nuisance.

INFANTS' MIXTURES.

AN inquest was held recently at Sheffield upon the body of an infant whose mother, it came out in evidence, was in the habit of giving her children "infant's mixture" at night, whether or no, apparently, there was anything the matter with them. The coroner, according to the *Leicester Post*, made some very strong remarks, with which we quite agree, and the verdict was "Death from natural causes, probably convulsions," a ridiculous and inconsequential verdict which suggests that no medical witness was called.

Matter of Principle.—From the facts supplied by our correspondent we have no hesitation in saying that: (1) he should have been asked by the other practitioner to see the patient; and (2) he did right in refusing to attend the case further.

ROWLANDSON AND HIS WORKS.

IT is not very long since (Feb. 16th) we commented on the curious manner in which Rowlandson, in attempting to pourtray a particularly hideous man or woman, frequently foreshadowed the *facies* of acromegaly—a disease in his day entirely unknown to medicine. Messrs. Pears and Co. have chosen as the subject of their pictorial quarterly "Rowlandson and his Works," and the accuracy of our remark will be seen by all medical eyes. The figure in the plate representing *Avarice*, the male spectator in the picture entitled *A Six-in-hand Team*, both combatants in the picture entitled *A Fencing Match*, and the candidate in the picture entitled *A Theatrical Candidate*, all present to a remarkable degree the characteristically distorted features of the disease. The reproductions of Rowlandson's works are very well executed in this interesting publication.

W. J. H.—It cannot be wrong to visit a friend as a friend, though our correspondent is no longer the medical adviser. If the possible difficulties about such a visit are made quite clear to the patient, it seems to us that conversation concerning the medical aspects of the case and their present treatment could easily be avoided.

Dr. Robertson.—The Pasteur-Chamberland filter was described on page 259 of THE LANCET of Jan. 26th, 1895.

"A QUESTION OF DOOR-PLATES."

To the Editors of THE LANCET.

SIRS,—With some interest tempered with amusement have I read two letters in your last issue purporting to be replies to the question I asked you as to "the legality of the use of foreign unregistrable M.D. degrees *alone* on door-plates without other affix." The first, from a "Registered Foreign Graduate," occupies nineteen lines of your space in discussing points nowise germane to the matter under discussion. It is true he considers the editors "satiated of it"—and no wonder, if "Registered Foreign Graduate" represents the full strength of the foreign graduate element. To "M.R.C.P. & M.D. duly registered" somewhat similar remarks may fairly apply, as he also has missed the point of the original communication as to the continued presence on a door-plate of an unregistrable M.D. alone without distinguishing affix—the right being challenged. Dr. Critchley's letter is of a very different type, although he will, I hope, forgive my pointing out that it hardly replies to the question and is rather involved. The *crux* of the matter is: Is a medical man—A. B. by name—holding a registrable licence to practise, but not a registrable degree, entitled to place on his door, sign himself, and allow himself to be addressed "A. B., M.D." on the strength of having taken or purchased a foreign M.D. degree, which is not registrable? The reply can be given by you, Sirs, in few words.

I am, Sirs, yours faithfully,
March 25th, 1895. H.

*** The foreign source of the degree ought to appear on the card or plate, as a matter of candour. But we are not quite so clear as our correspondent seems to be as to the illegality of not stating it. The legal offence under the 40th section of the Medical Act is that of using titles which falsely imply registration. But in the case supposed the person is registered in virtue of other qualifications than his degree, which are just as good for registration purposes as a British degree.—ED. L.

THE CASE OF MR. C. BRYAN TOWNSHEND.

THE following additional subscriptions are hereby thankfully acknowledged:—

Surgeon-Maj. De Tatham (London)	£1	1	0	Mr. J. Cuthbertson Walker (St. Austell) ...	£0	10	6
Mr. Thomas Smith (London)	10	10	0	Dr. and Mrs. Mutch (London)	0	10	0
Dr. W. M. Kelly (Taunton)	1	1	0	G. V. S.	1	1	0
Dr. Henry T. Sylvester (London)	5	5	0	Mr. E. G. Cuthbert F. Atchley (Bristol)	1	1	0
Sympathiser	0	10	6	Mr. Alfred Emson (Dorchester)	1	1	0

Further donations are earnestly requested, and will be acknowledged by the Rev. H. Townshend, 41, King Henry's-road, South Hampstead, N.W.

STRUCK OFF THE REGISTER.

THE following small circular is being circulated among shops and public and private houses. On the door, we are informed, is a wooden board with "Dr. Costelloe" painted on it. We do not see any one answering to this address in the Medical Register. The General Medical Council at its last meeting ordered the removal of the name of Daniel Costelloe for covering an unqualified practitioner at Croydon and Selhurst (Minutes, 1894, Dec. 5th).

"Dispensary and Consulting Rooms, 23, London-street, Greenwich. Surgery hours: morning, 9 to 12 o'clock; evening, 6 to 10; Sunday evening, 8 to 9.30. Messages may be left at any hour, but patients are requested whenever possible to send before 12 A.M. Dispensary fees. Midwifery cases are attended at a reduced fee. Vaccination with calf lymph only. Teeth extracted."

Parochial.—We think the appointment should be held in the name of an individual member of the firm.

MEDICAL ADVERTISING IN MANCHESTER.

THE following card is a study in the degenerated methods of practice which have multiplied of late. The absence of a name does not much excuse or extenuate the author of the card, whose personality is said to be well known. Similar documents are said to be common in Manchester. The card should be forwarded by the gentleman's neighbours to the bodies who are responsible for his diplomas. Does the author mean the public to infer by the words "a physician or a surgeon" that there are two persons responsible for this dispensary?

"The General Dispensary, 109, Upper Moss-lane, Manchester (established for the benefit of the middle and working classes during illness). A physician or surgeon attends daily—morning, 10 to 12; afternoon, 3 to 4; evening, 6.30 to 9; Sunday morning, 10.30. Terms: Advice and medicine, 1*s.*, or 2*s.* per week; visits to patient's home, 1*s.* 6*d.*, or from 3*s.* 6*d.* per week, payable in advance. Vaccination from calf lymph every Tuesday. Patients requiring to be visited are requested to give notice before 12 o'clock."

T. W.—We do not give medical advice and we never recommend individual practitioners. Our correspondent's condition is one that is very familiar to medical men; and it is in all probability the fact that on account of his avocation he cannot obtain rest and a definite or prolonged course of treatment that is answerable for the obstinacy of his case.

Mr. J. C. Bhattacharji should write to the Military Secretary, India Office, Westminster. The rules and conditions under which admission into the Indian Medical Service is gained will be found in the Students' Number of THE LANCET, published each year in September.

CLUB CHARGES.

To the Editors of THE LANCET.

SIRS,—(1) A large fishermen's protective society wishes to draw up a fixed rate of charges for medical attendance. What would you consider fair for visit and medicine, for visit only, and for medicine only? (2) A girl of twenty-two years has been suffering for the last seven years from œdema of the lower extremities, with occasional attacks of phlebitis. Everything imaginable has been tried. May I ask the advice of your readers, some of whom may have seen a similar case?

I am, Sirs, yours faithfully,
March 25th, 1895. R. I. T. A.

*** We regret to be unable to advise our correspondent, but the information given us is too scanty. The tariff should obviously bear due relation to the wages of the fishermen, to the numbers who would belong to the proposed society, and to the strictness of the regulations against the admission of comparatively well-to-do persons as fishermen. If our correspondent can give us further particulars on these points we will attempt to assist him from our knowledge of the fees paid by members of similar clubs. We leave the second question to our readers.—ED. L.

THE STUDY OF EVOLUTION IN WHITECHAPEL.

ONE English lady has evidently profited by the writings of Haeckel. She did not want to be evicted, and so she produced a fœtal kitten, saying she had had a miscarriage. Early embryos are very much alike, and the medical man accordingly gave her a certificate to that effect; but another discovered the fraud, and so the lady had to go. She may console herself by posing as a nineteenth century Mrs. Tofts, who made her name by producing a brood of rabbits. Students of Hogarth will remember his picture, "Superstition, Credulity, and Fanaticism," where the incident is represented in a vivid manner.

Colonist is advised to write to Dr. Chas. Gage Brown, C.M.G., Medical Officer to the Colonial Office, Downing-street, S.W. He will also find some information in the Students' Number of THE LANCET, published every September.

ERRATUM.—In the report of the deputation from the Sanitary Inspectors' Association to the Local Government Board, which we printed last week, Sir Walter Foster was made to refer to the year "1864" as the date of "the least fatal of previous [cholera] invasions." The date mentioned by Sir Walter Foster was, of course, 1866.

During the week marked copies of the following newspapers have been received:—*Irish Field, Bolton Chronicle, Medical Record, Hampshire Telegraph, Man of Ross, Cork Daily Herald, Glasgow Herald, Derbyshire Courier, Wallasey Chronicle, Denbigh Free Press, Sussex Daily News, Huddersfield Examiner, Scotsman, Sheffield Independent, Birmingham Mail, Carlisle Journal, Cumberland Pacquet, Stirling Journal, Macclesfield Courier, Citizen, Builder, Pioneer Mail, Leeds Mercury, Sun, Times of India, Architect, Yorkshire Post, Lincolnshire Chronicle, City Press, Bristol Mercury, Mining Journal, West Middlesex Standard, Hertfordshire Mercury, Courrier de la Presse, Local Government Journal, West Middlesex Advertiser, Surrey Advertiser, Guy's Hospital Gazette, Nottingham Daily Guardian, Ormskirk Advertiser, Burton Chronicle, Bath Herald, Evening Citizen (Glasgow), Guernsey Advertiser, Edinburgh Evening Dispatch, Craven Herald, Littlehampton News, North Wales Guardian, Grimsby News, Sevenoaks Chronicle, Dundee Advertiser, St. Mary's Hospital Gazette, &c., &c.*

Communications, Letters &c. have been received from—

A.—Dr. C. C. Aitken, Barnsley; Dr. G. A. Abrath, Sunderland; Æsculapius, Lond.; Analysis, Lond.; Audax, Lond.; Alpha, Bedford.

B.—Dr. A. G. Bateman, Lond.; Dr. G. F. Blandford, Lond.; Dr. A. B. Boyd, Oxford; Dr. F. M. Black, Lond.; Mr. L. A. Bidwell, Lond.; Mr. A. St. Clair Buxton, Lond.; Mr. H. G. Barron, Southport; Mr. H. W. R. Bencraft, Southampton; Mr. V. Barrett-Lennard, Lond.; Mr. C. Birchall, Liverpool; Mr. W. M. Beamont, Bath; Mr. J. C. Bhuttacharji, Chapeltown; Mons. O. Berthier, Paris; Mr. T. B. Browne, Lond.; Mr. E. J. Brett, Lond.; *Bristol Medico-Chirurgical Journal*, Editorial Sec. of; Brit. Orthopædic Soc., Lond., Hon. Sec. of; Biltor Co., Lond.; Beta, Fakenham.

C.—Dr. W. S. Colman, Lond.; Dr. A. H. Carter, Birmingham; Mr. W. Watson Cheyne, Lond.; Mr. H. Cripps, Lond.; Mr. J. H. Caird, Rannoch; Brig.-Surg.-Lieut.-Col. W. H. Climo, Colchester; Mr. T. W. Cave, Nottingham; Mr. J. F. Colyer, Lond.; Mr. M. Cutcliffe, North Tawton; Mrs. Choat, Sandown; Messrs. Callard and Co., Lond.; Clerical and Medical Bank, Bristol, Manager of; Cheirion, Lond.; Colonist, Cardiff; C. T., Lond.

D.—Dr. D. Drummond, Newcastle-on-Tyne; Dr. W. H. Day, Lond.; Mr. T. Dixon, Lond.; Derbyshire Roy. Infy., Derby, Sec. of.

E.—Dr. C. S. Evans, Shaftesbury; Dr. F. W. Edridge-Green, Lond.

F.—Sir Walter Foster, Lond.; F.R.C.S., Lond.

G.—Dr. W. R. Gowers, Lond.; Dr. J. Galloway, Lond.; Maj.-Gen. Graham, Lond.; Mr. C. R. Graham, Wigan; Messrs. Gush, Phillips, Walters, and Williams, Lond.

H.—Sir Francis Seymour Haden, Alresford; Dr. G. Heaton, Birmingham; Dr. W. S. Hedley, Brighton; Dr. G. Herschell, Lond; Dr. E. R. Holmes, Shifnal; Mr. O. Holst, Eastbourne; Mr. N. W. Holmes, Lond.; Mr. C. Higgens, Lond.; Messrs. D. Horwitz and Co., Lond.; Messrs. Herring, Dewick and Co., Lond.; Horse Owners' Assoc., Lond., Sec. of.; Hosp. for Sick Children, Gt. Ormond-street, Lond., Med. Supt. of.

I.—Mr. E. C. B. Ibotson, Woodbridge; International Central Agency, Aachen.

J.—Sir George Johnson, Lond.; Dr. J. C. Bowie, Clousta, Shetland; Dr. T. H. Jackson, Sanquhar; Mr. F. B. Jessett, Lond.; Mr. T. R. Jessop, Leeds; Mr. J. Jones, Lond.

K.—Dr. N. Keith, Southend, N.B.; Dr. L. Kidd, Enniskillen; Mr. W. H. Kesteven, Hendon; Messrs. Knight and Co., Lond.

L.—Dr. L. T. Lancaster, Clitheroe; Mr. Wellington Lake, Guildford; Dr. J. F. Little, Lond.; Mr. F. D. Lawson, Lond.; Mr. M. J. Longinotto, Lond.; Mrs. F. Long, Wells; L. & N.W.R. Library and Literary Assoc., Lond., Sec. of.

M.—Dr. W. J. Mickle, Lond.; Dr. J. McNamara, Lond.; Dr. W. Milligan, Manchester; Mr. F. L. Mills, Lond.; Mr. J. H. Marsh, Macclesfield; Mr. F. B. Mason, Chester; Mr. P. W. Macdonald, Lond.; Mons G. Masson, Paris; Mr. E. W. G. Masterman, Jerusalem; Mr. J. C. Maxim, Lyons; Mr. J. May, Lond.; Mr. E. F. Mortimer, H.M.S. *Pheasant*, Esquimalt, Pacific Station; Mr. A. B. R. Myers, Lond.; Messrs. Maw, Son, and Thompson, Lond.; Maltine Mfg. Co., Lond.; Medicus, Sheffield; Matter of Principle; Minus, Lond.; M.R.C.S. &c.

N.—Dr. E. Neumann, Vienna; Mr. H. E. Norris, Woolwich; North-Eastern Hosp. for Children, Sec. of; Newcastle-on-Tyne Corporation, Clerk of.

O.—Messrs. Oppenheimer, Son, and Co., Lond.; Messrs. Oliver and Boyd, Edinburgh; Od. Chemical Co., New York.

P.—Dr. G. V. Poore, Lond.; Dr. E. Pfeiffer, Wiesbaden; Mr. C. Puzey, Liverpool; Mr. A. Pierce, Denbigh; Messrs. Parke, Davis, and Co., Lond.; Messrs. A. and F. Pears, Lond.; Parish of St. Marylebone, Vestry of.

R.—Mr. C. H. Robinson, Kingstown; Mr. J. Roberts, Liverpool; Mr. A. Robertson, Sudbury; Messrs. Robertson and Scott, Edinburgh; Roy. Coll. of Surgeons, Lond., Registrar of; Roy. Meteorological Soc., Lond., Asst. Sec. of; Rainhill County Asyl., Clerk of; Religious Tract Soc., Lond.; R. I. T. A.

S.—Dr. H. Sutherland, Lond.; Dr. W. Sumpter, Norfolk; Dr. G. A. Stephens, Swansea; Dr. E. Seaton, Lond.; Dr. E. J. Smyth, Birmingham; Mr. A. Stenhouse, Glasgow; Mr. J. B. Smith, Lond.; Mr. J. Startin, Lond.; Messrs. Stubbs, Belfast; Messrs. Stubbs, Norwich; Messrs. Stubbs, Plymouth; Messrs. J. Smith and Co., Lond.; Messrs. Stubbs, Bradford; Messrs. Stubbs, Liverpool; St. Pancras Vestry, Lond., Med. Officer of Health of; St. Luke's Hosp., Lond.

T.—Dr. W. B. Thorne, Lond.; Dr. J. K. Thornton, Lond.; Mr. C. Toddsville, Beverley; Mr. A. H. Thompson, Darlington; Mr. H. Taylor, Guildford; Mr. W. P. Thornton, Canterbury; Mr. A. R. Turnbull, Lond.; Twenty Years' Subscriber, A; Tasma, Lond.

U.—Univ. Coll., Dundee, Sec. of.

W.—Dr. W. G. Willoughby, Eastbourne; Dr. H. W. Webber, Rickmansworth; Dr. W. Wilkinson, Colne; Dr. F. R. Walters, Lond.; Dr. H. C. Wilkins, Coventry; Mr. J. Wright, Paul; Mr. F. Wilson, Lond.; Mr. J. R. Whitaker, Edinburgh; Mr. E. Wilson, Exeter; Messrs. Willows, Francis, and Butler, Lond.; Messrs. J. Wright and Co., Bristol.

X.—X. Y., Lond.

Y.—Yorkshire Coll., Leeds, Sec. of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. J. P. Atkinson, Yealand Conyers; Messrs. Austin and Son, Clifton; Amicus, Lond.

B.—Mr. A. M. Barford, Wokingham; Mr. J. S. Buck, Eaton Socon; Messrs. Battle and Co., Paris; Messrs. Blondeau et Cie., Lond.; B.A., Lond.; Bayuton, Lond.

C.—Dr. T. C. Craig, Newcastle-on-Tyne; Dr. F. E. Carey, Guernsey; Mr. T. M Carter, Bristol; Mr. M. Cutcliffe, North Tawton; Miss Candy, Lond.; Messrs. Coleman and Co., Norwich; City Orthopædic Hosp., Lond.; Crœsus, Lond.; Clavis, Lond.; Chloroformist, Lond.

D. Dr. A. Duke, Littlehampton; Mr. J. Diggins, Lancaster; Mr. J. W. Davies, Ebbw Vale; Duplex, Lond.; Dagonet, New Brompton.

F.—Messrs. Fairbanks, Lavender, and Co., Walsall; Messrs. Ferris and Co., Bristol; Francis, Stevenage.

G.—Mr. T. W. H. Garstang, Knutsford; Dr. H. Gervis, Bishops Stortford; Miss A. Gratton, Lond.

H.—Dr. J. Housley, Retford; Dr. Hutchinson, Longton; Dr. S. Hyde, Buxton; Dr. T. E. Hillier, Lond.; Mr. F. H. Hawley, Biddulph; Mr. J. H. Hatfield, Lond.; Mr. W. J. H. Haslett, Sunbury-on-Thames; Mr. J. Heywood, Manchester; Mr. M. H. Hayes, Melton Mowbray; Mr. A. G. Hebblethwaite, Keighley; Mr. F. Howse, Rotherham; Hamilton Assoc., Lond.; Hortus, Lond.

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